

FIG. 1

2 / 38

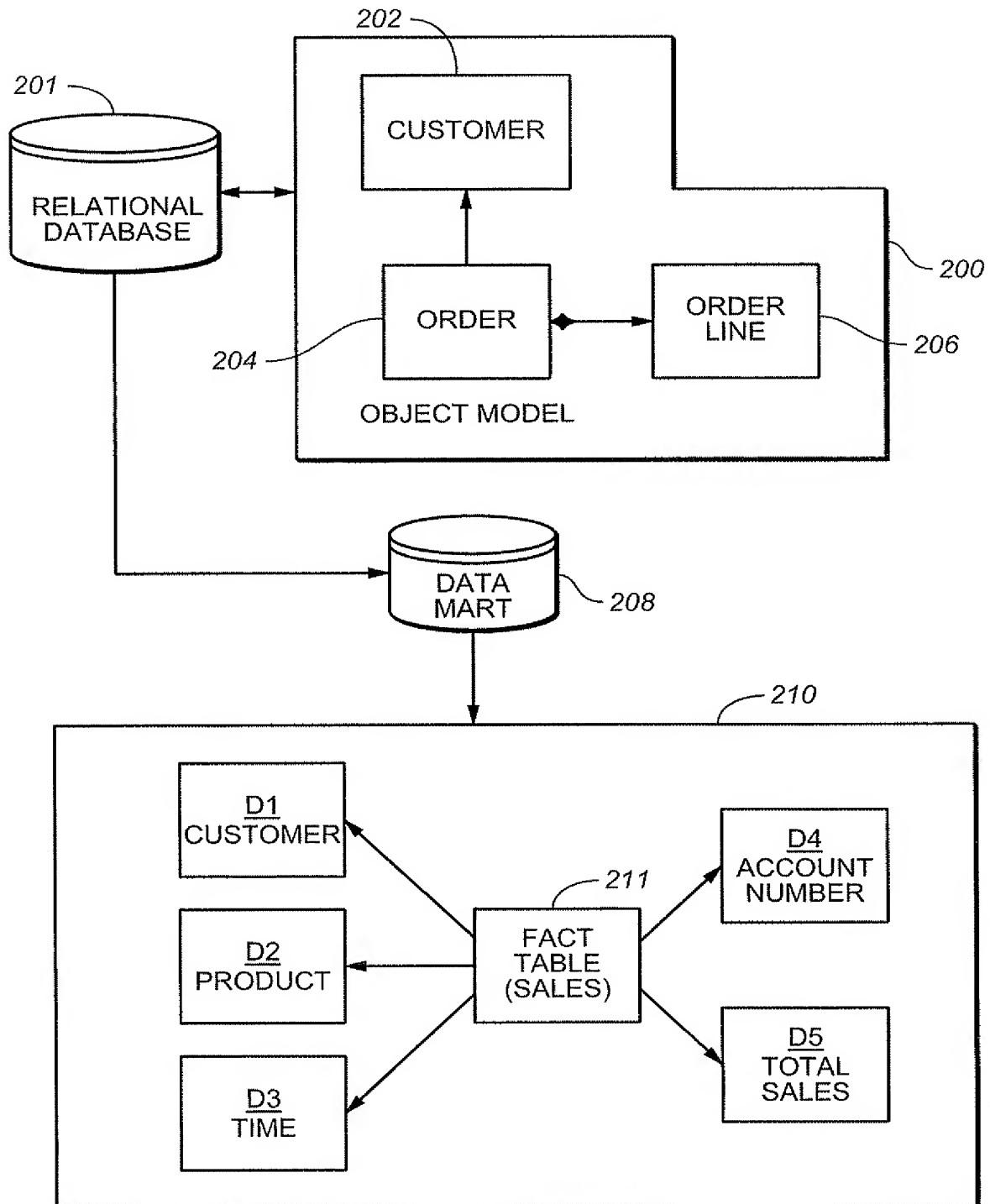
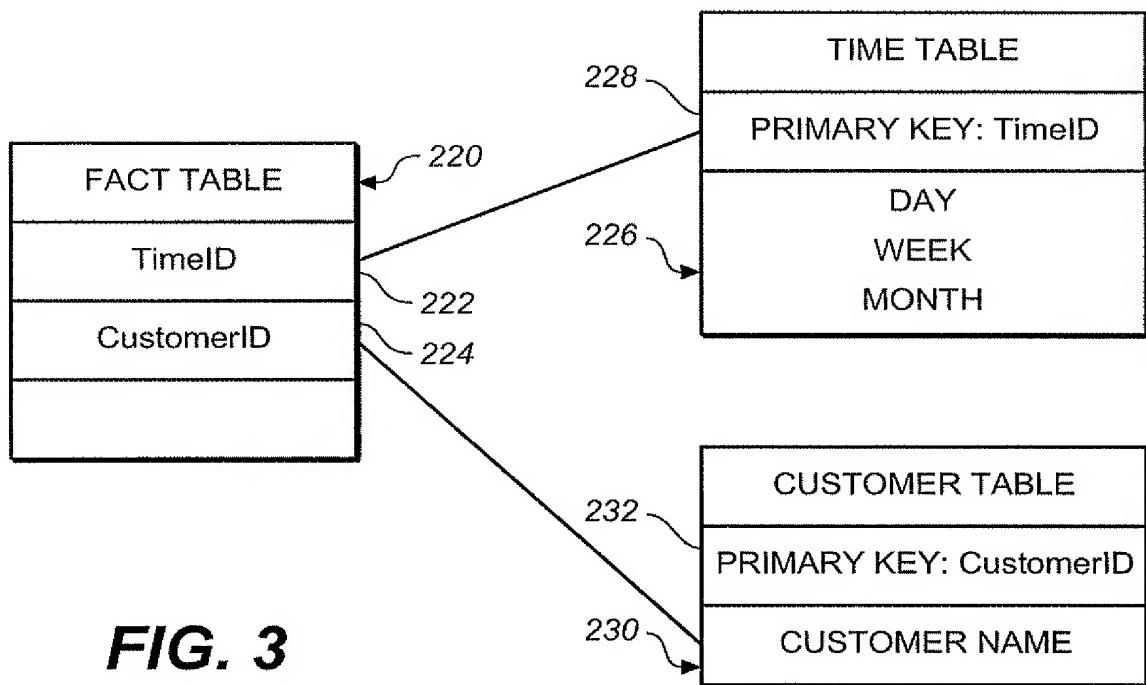


FIG. 2
(PRIOR ART)



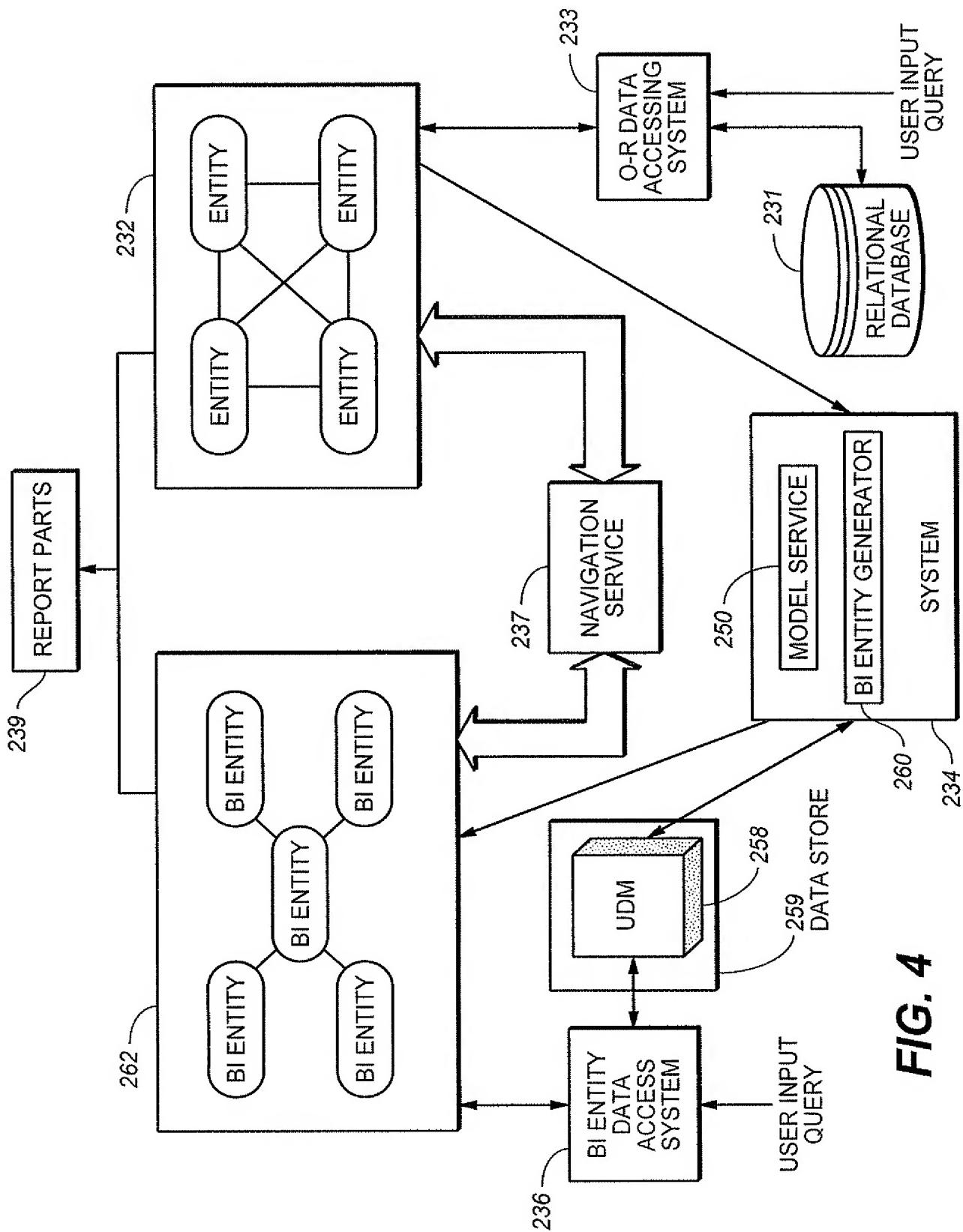


FIG. 4

5 / 38

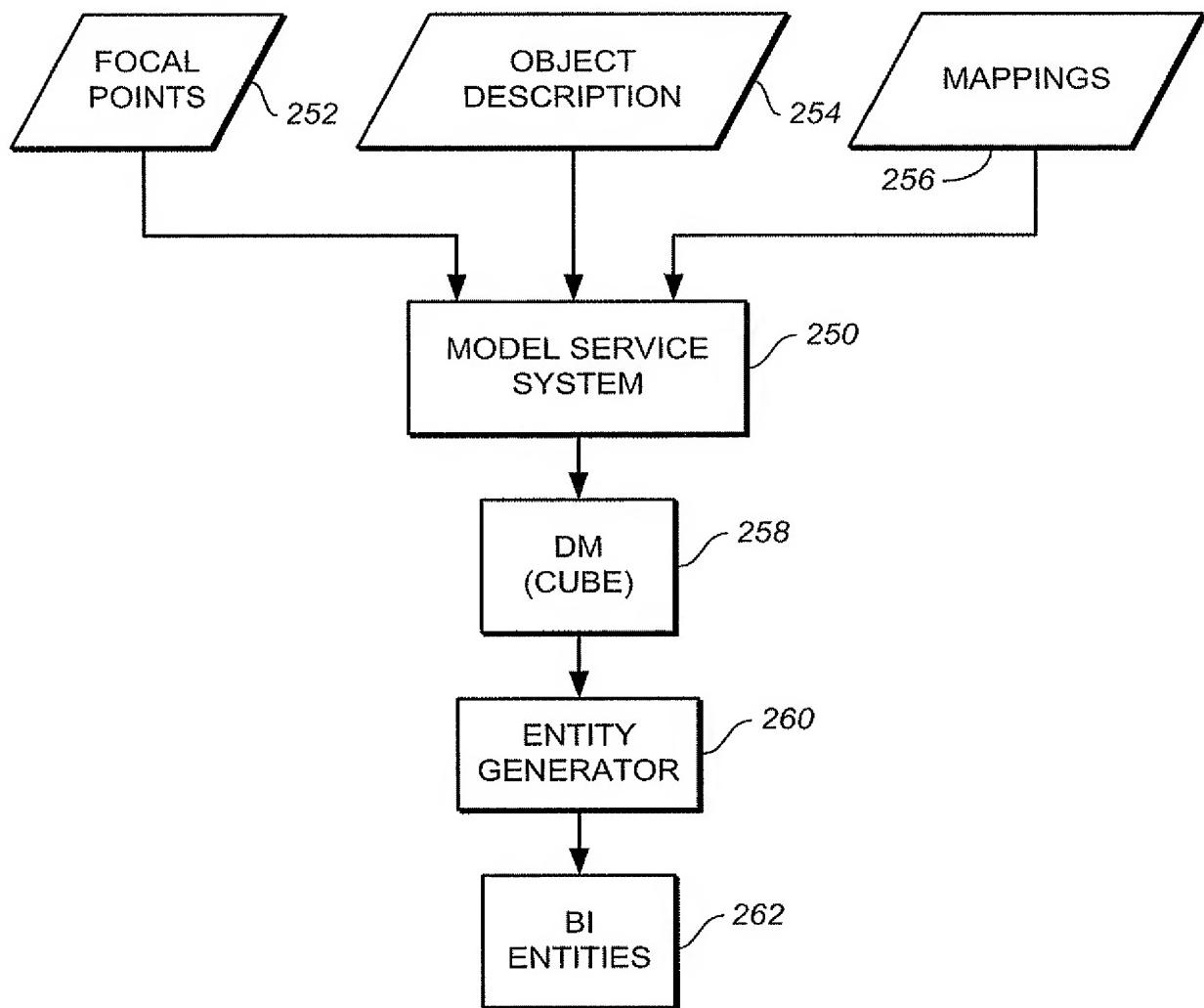


FIG. 4A

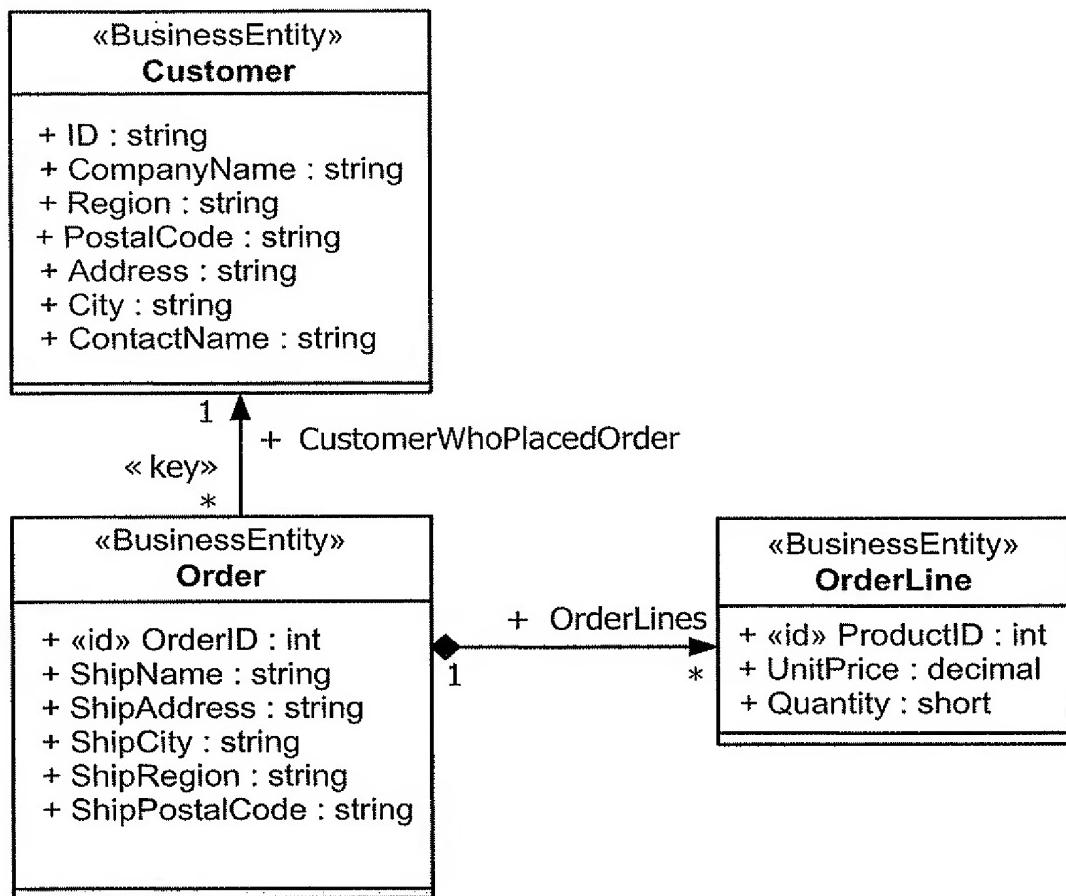


FIG. 4B

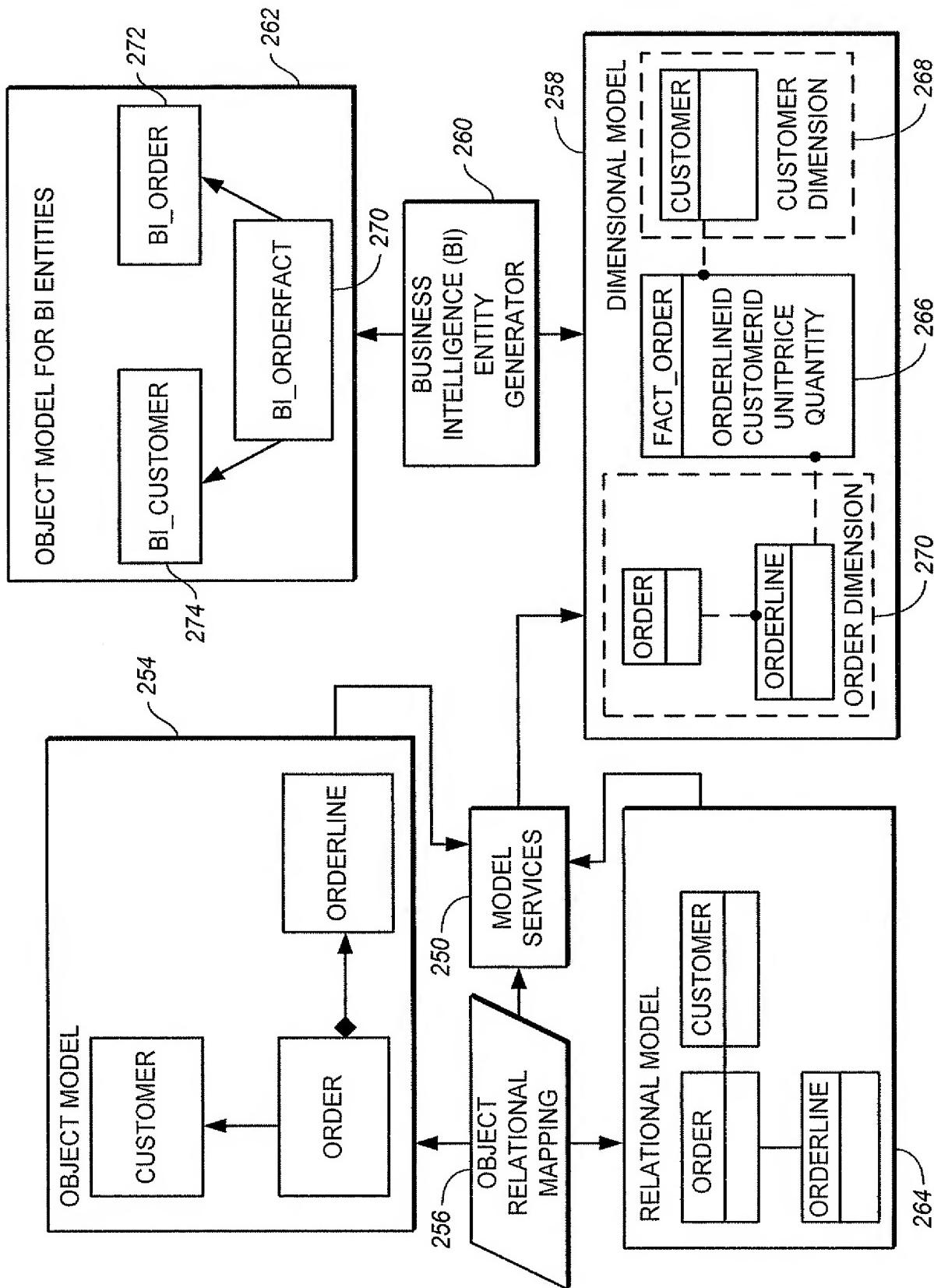


FIG. 4C

REPLACEMENT SHEET

Appln. No.: 10/748,391, Filed: 12/30/2003
inventor: Adam Yeh, Att. Docket: M61.12-0568

8 / 38

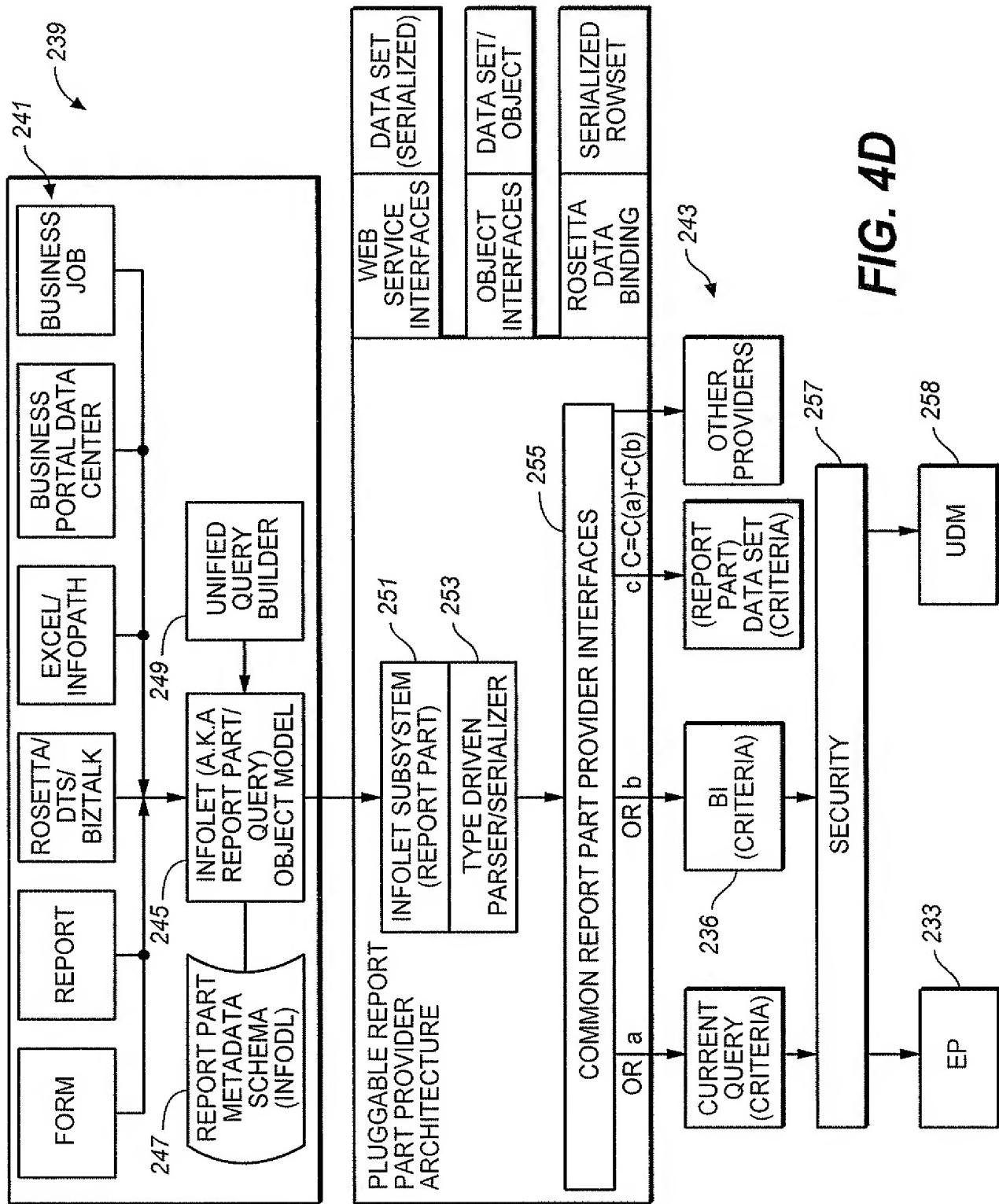
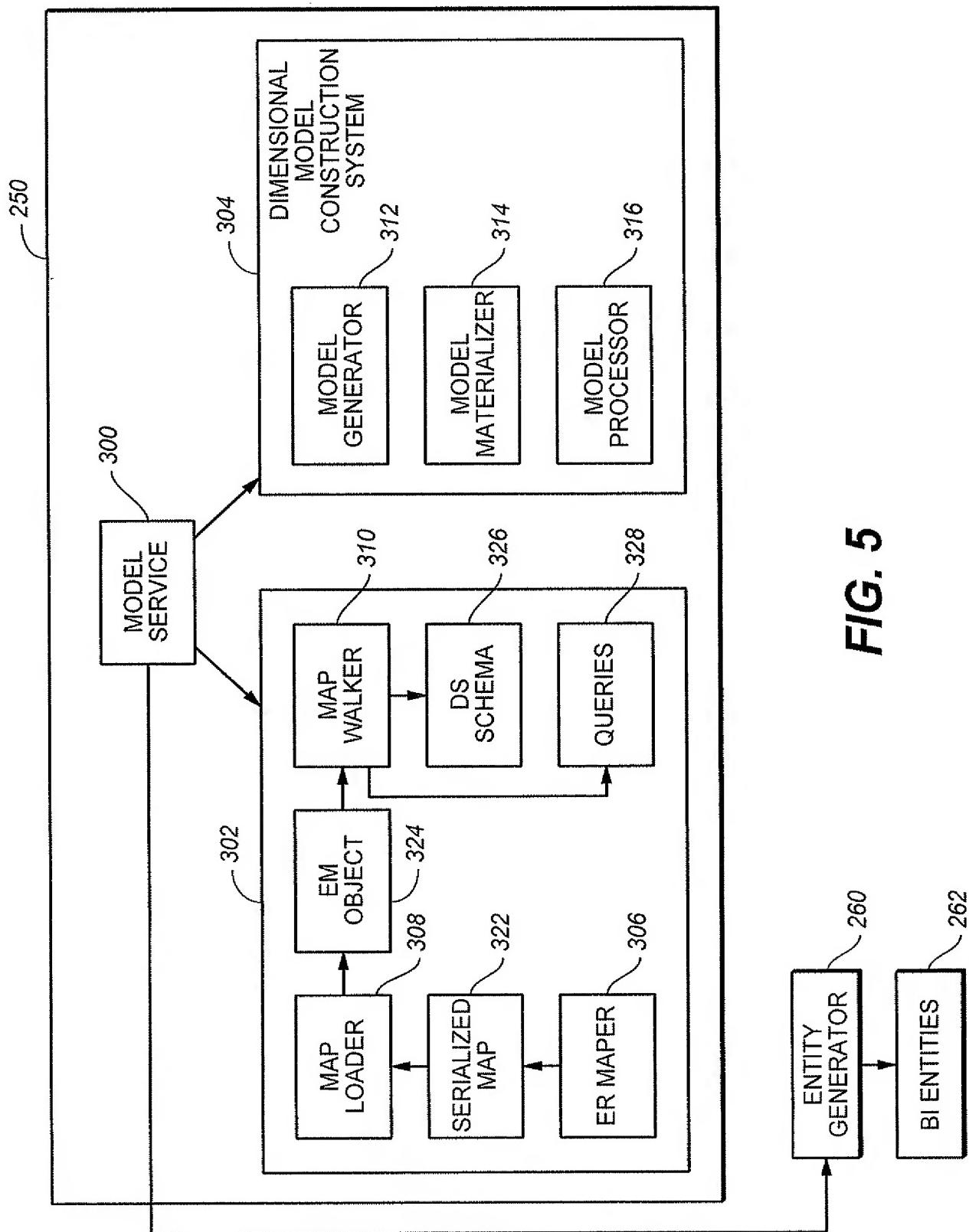


FIG. 4D



10 / 38

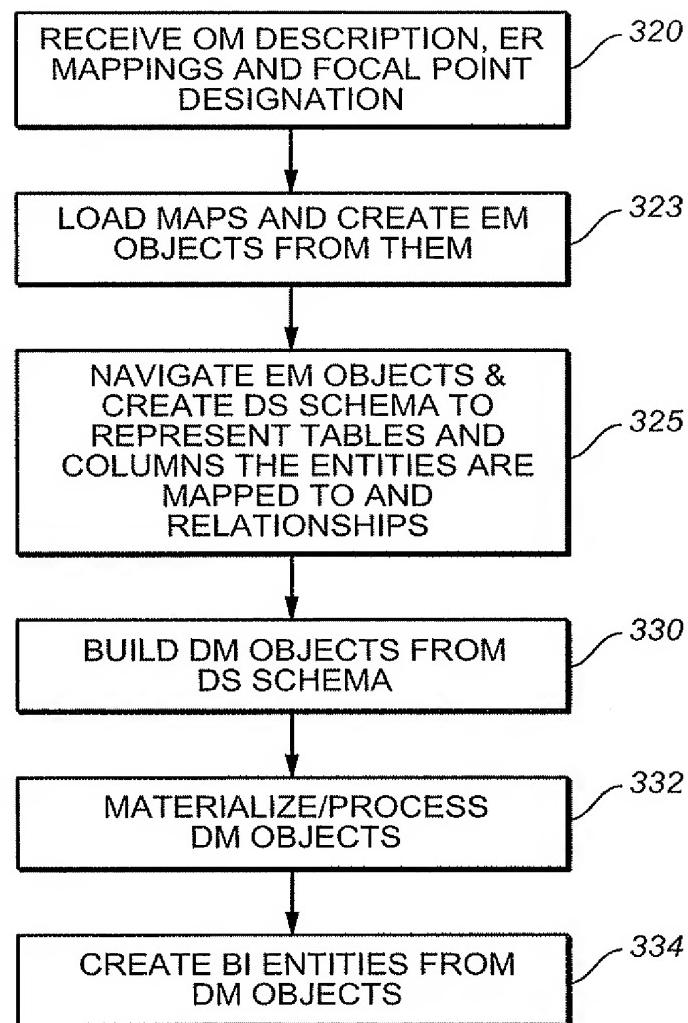


FIG. 6A

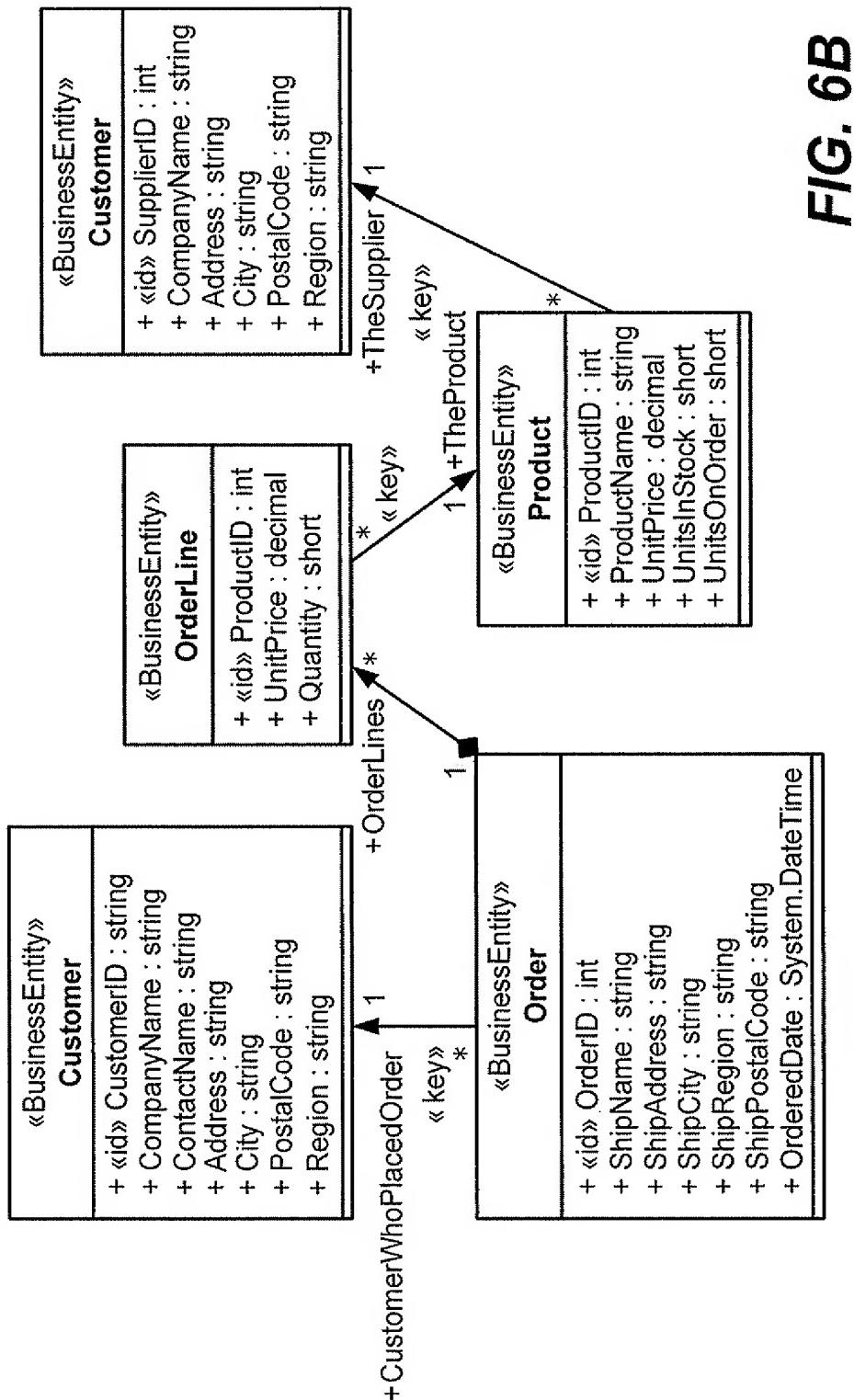


FIG. 6B

12 / 38

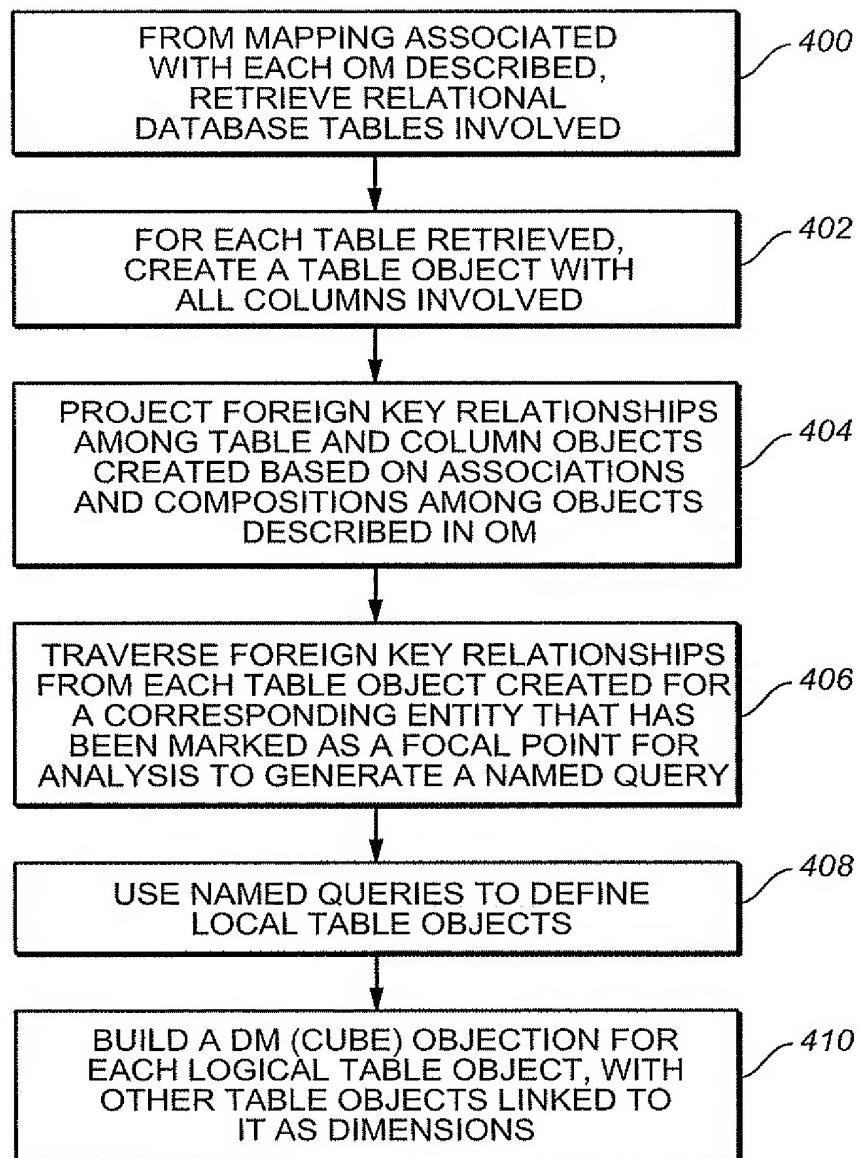


FIG. 7

FIG. 8

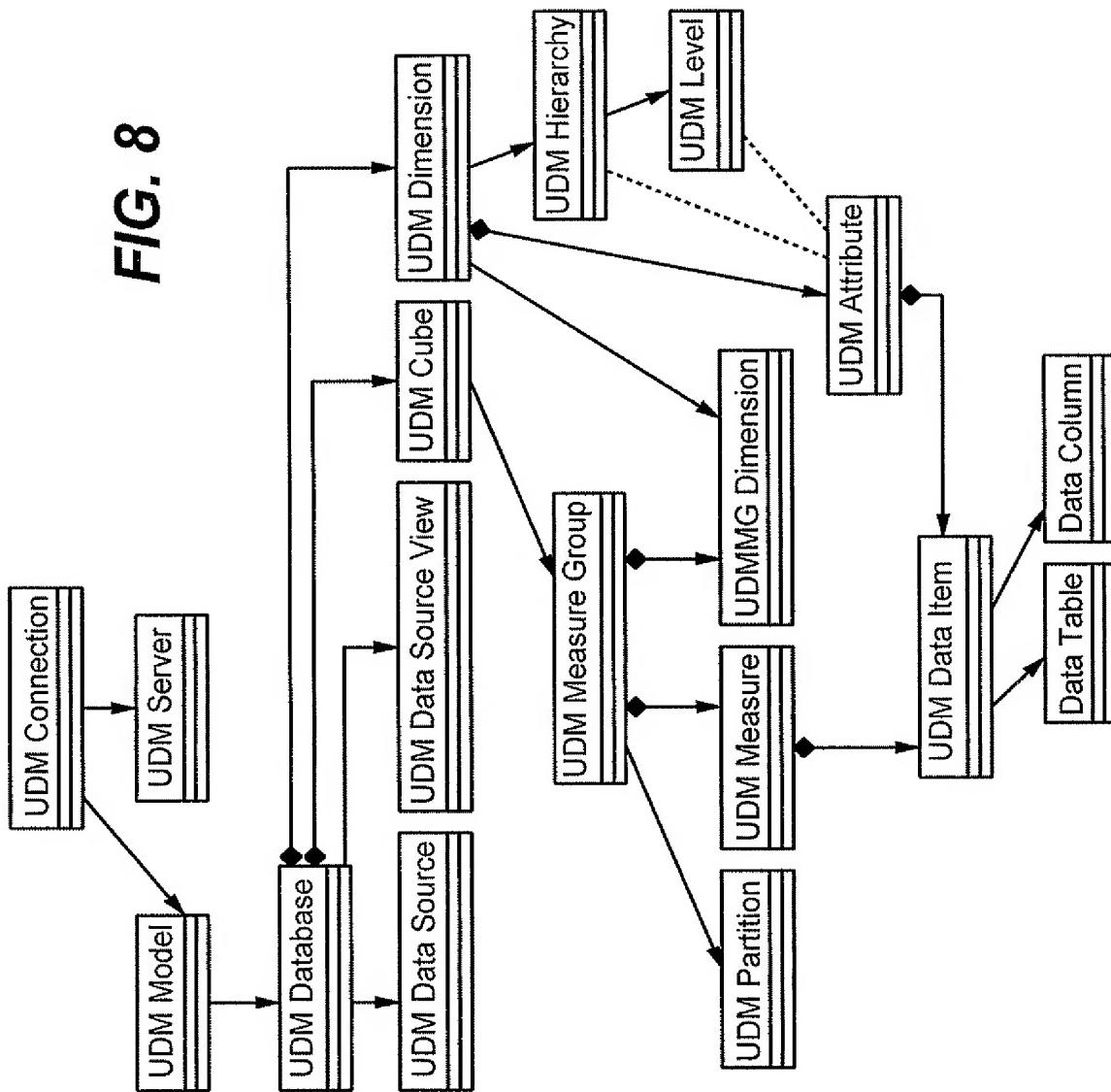
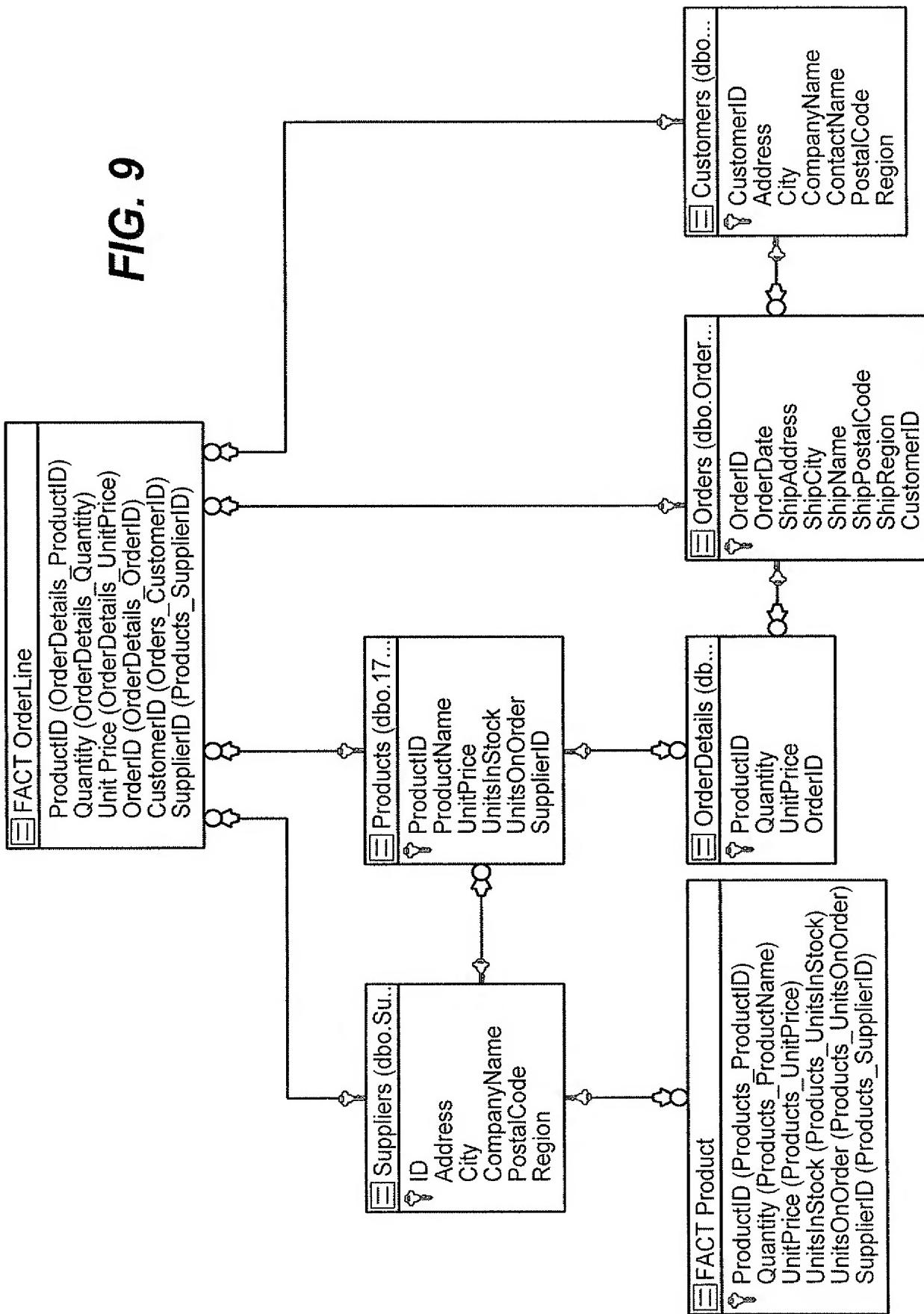


FIG. 9



REPLACEMENT SHEET

Appln. No.: 10/748,391, Filed: 12/30/2003
 Inventor: Adam Yeh, Att. Docket: M61,12-0568

15 / 38

FIG. 10

MDX Sample Application - mdxq1.MDX

File Edit Query View Help

DB: MBDDatabase [] Queries: #1 select [Measures]&[FACT].[OrderLine].[Quantity] on columns,
 crossjoin([Customer].[City].Members,[Supplier].[City].Members) on rows
 from Microsoft_EntityTests

Cube: Microsoft_EntityTests []

Microsoft_EntityTests []

Syntax Examples []

FACT OrderLine OrderLine

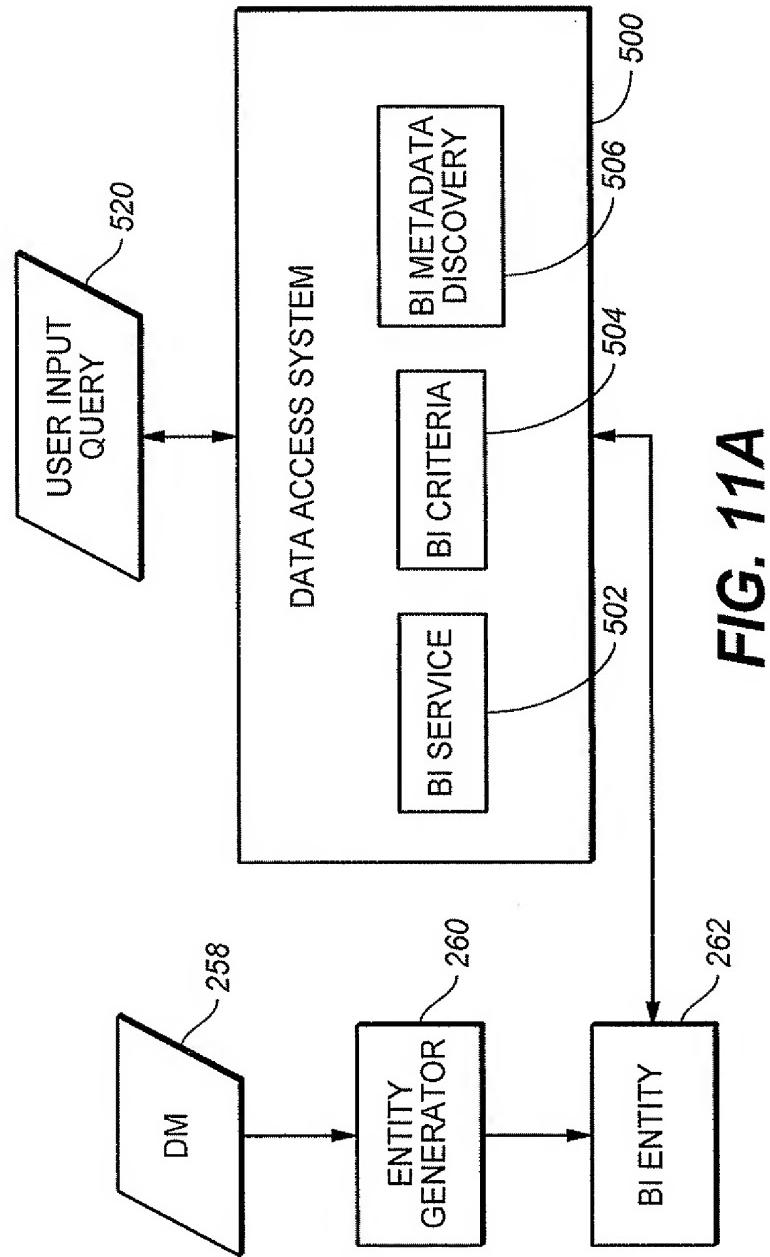
	All	51090
Ann Arbor		1436
Annacy		3073
Bend		1672
Berlin		1436
Boston		2084
Cuxhaven		612
Frankfurt		4072
Goteborg		928
Lapneenranta		1736
London		2213
Lynoby		1056
Manchester		2851
Melbourne		3937
Montceau		534
Montreal		1658
New Orleans		1735
Osaka		1211
Oviedo		1050
Paris		1416
Ravenna		2500
Saferno		1682
Sandyka		2526
Sao Paulo		1125
Singapore		1878
Site_Hyacinthe		1686
Stockholm		1223
Sydney		2108
Tokyo		1134
Zaandam		623
Aathen	All	160
	Ann Arbor	

430

432

MDBFREP4

16 / 38



17 / 38

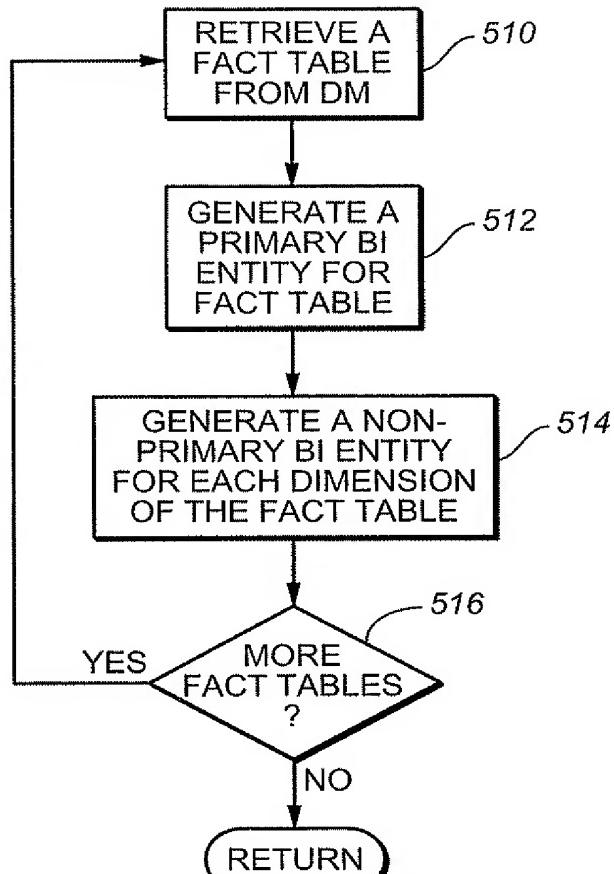
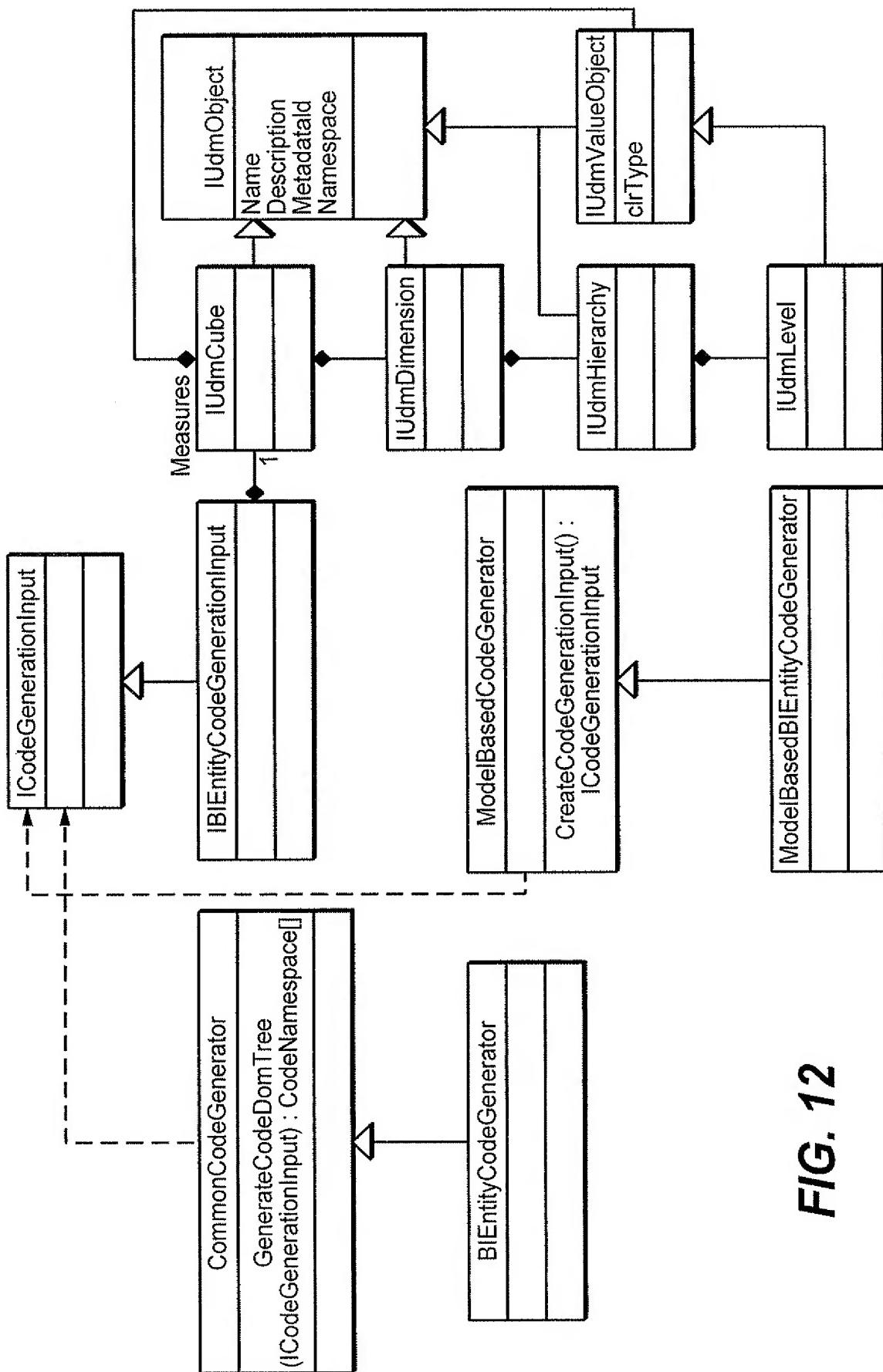


FIG. 11B



19 / 38

```
public interface ICodeGenerator
{
    /// <summary>
    /// The method returns a GeneratedCodeWithWritableAreaPositions.
    /// </summary>
    /// <param name="input">ICodeGenerationInput defines the data needed for cod-
    generation.</param>
    /// <returns>The GeneratedCodeWithWritablePositions.</returns>
    GeneratedCodeWithWritableAreaPositions
    GeneratedCode(ICodeGenerationInput input);
}

public interface IMutableCodeGenerator
{
    /// <summary>
    /// The method reads the store and creates the ICodeGenerationInput needed for
    code generation.
    /// </summary>
    /// <returns></returns>
    ICodeGenerationInput CreateCodeGenerationInput();
}
```

FIG. 13

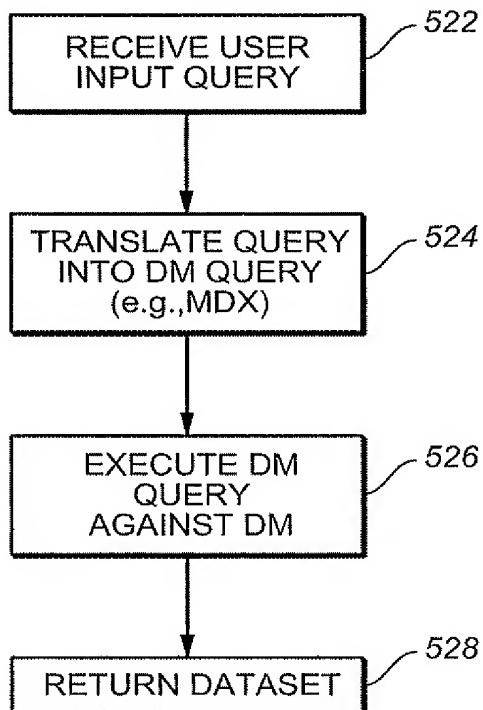
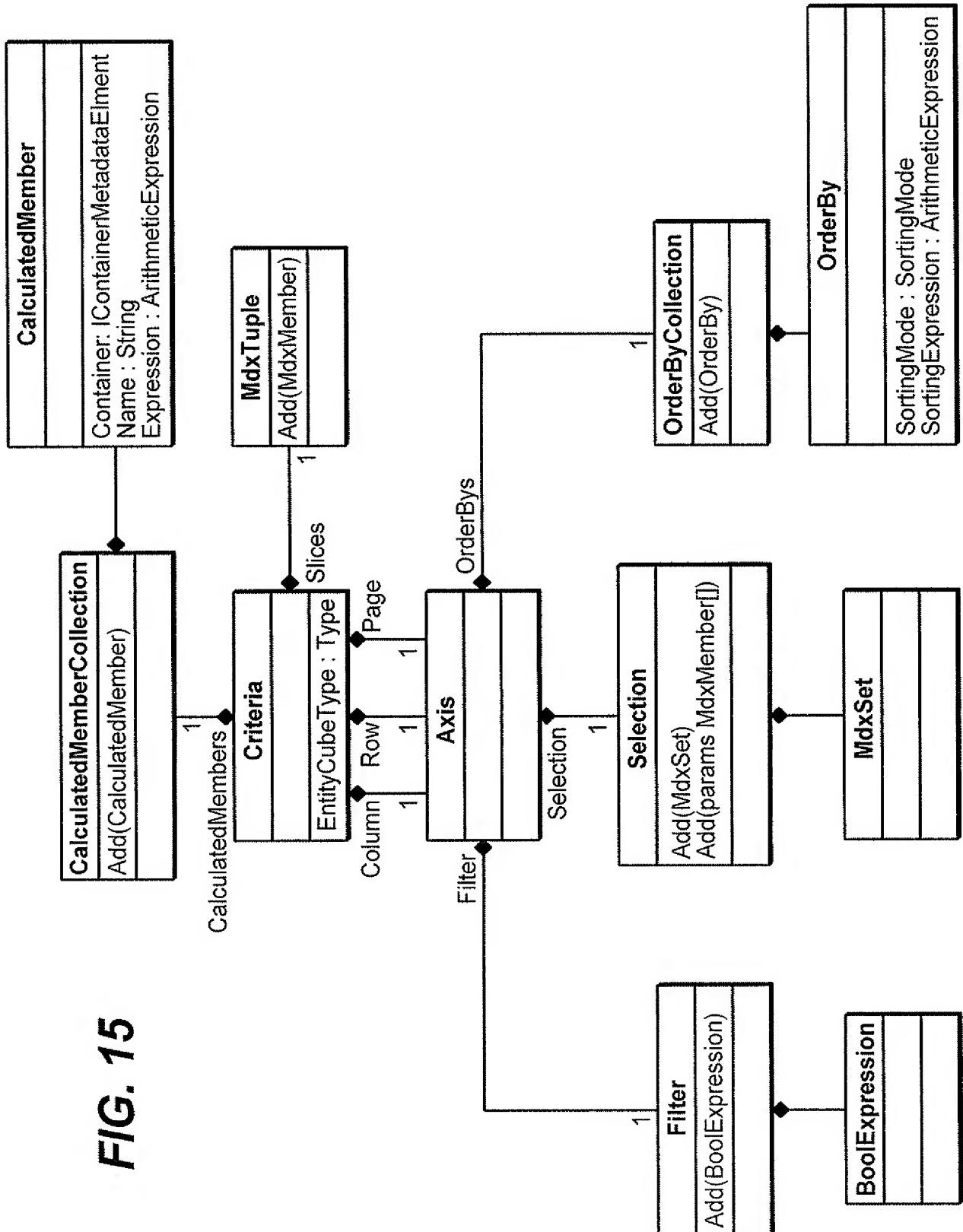


FIG. 14



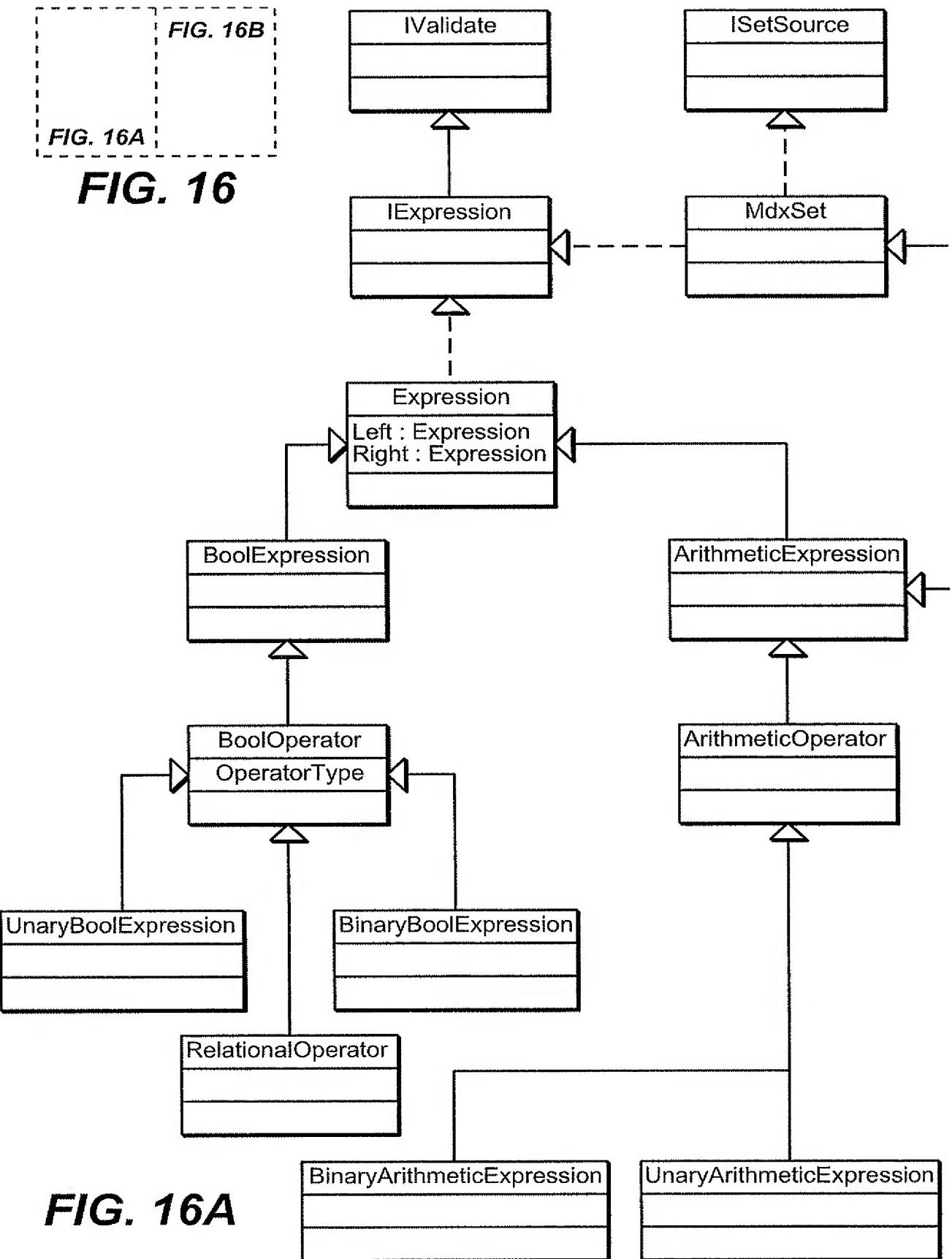
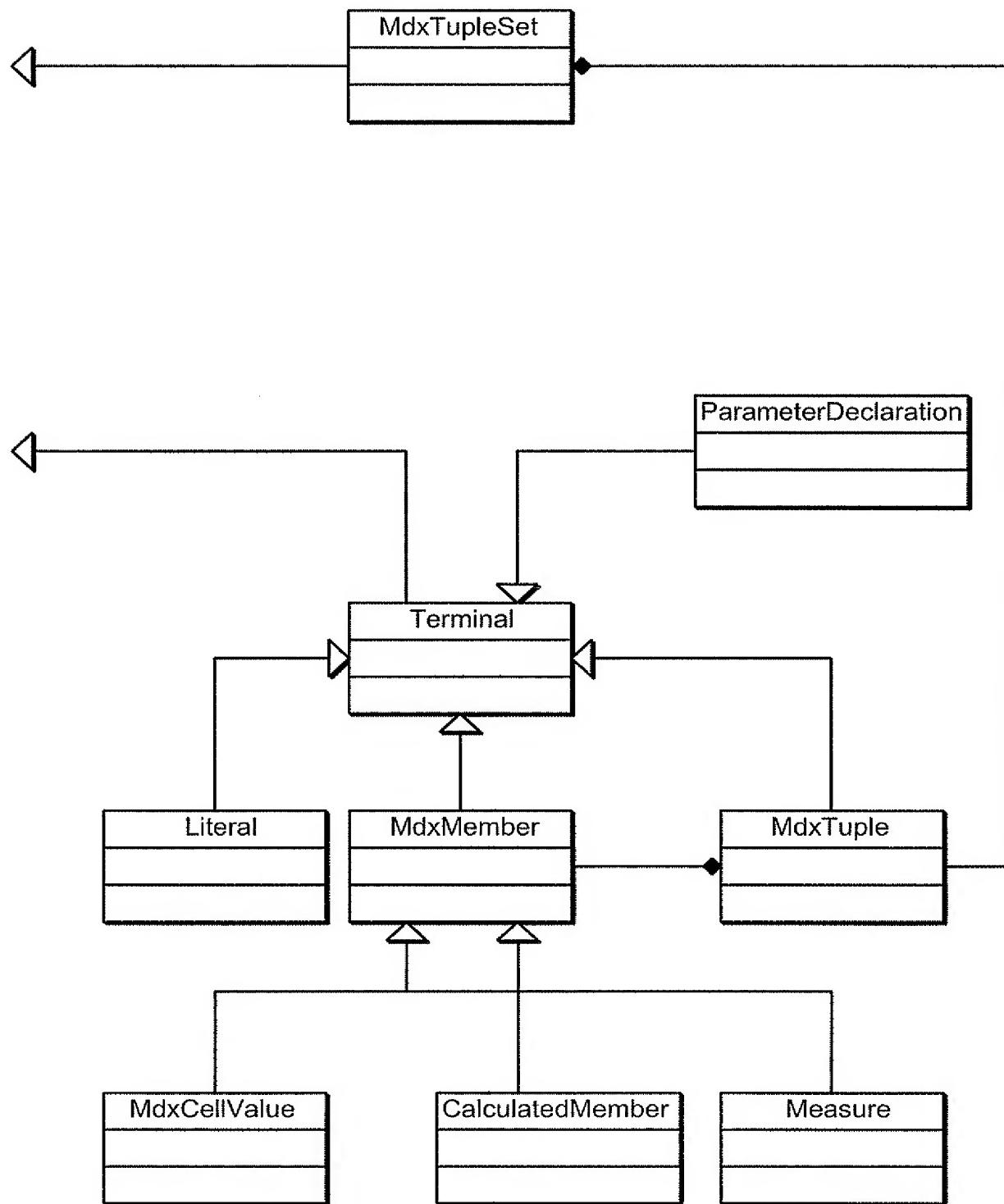


FIG. 16B



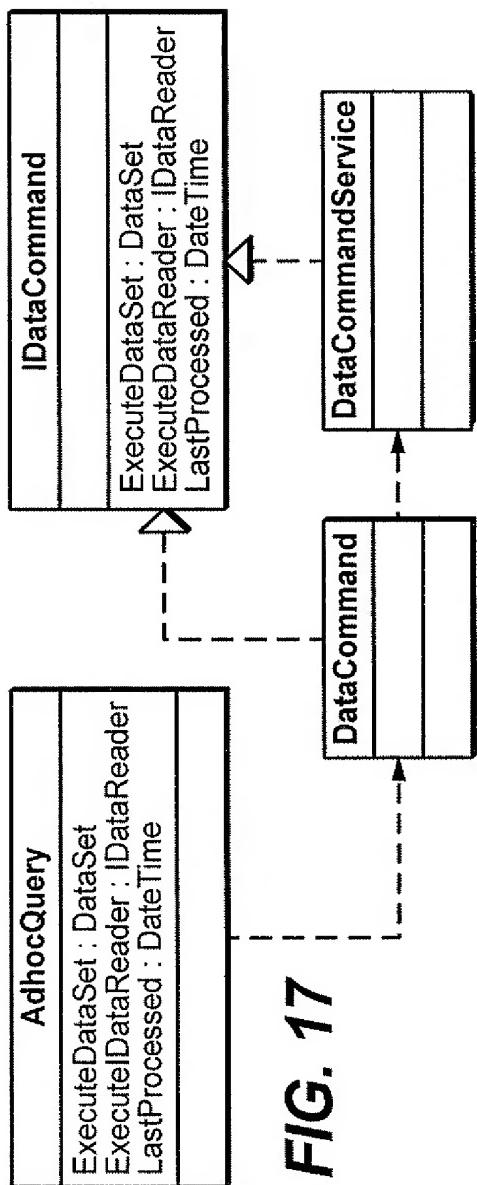


FIG. 17

	[Order].[OrderedDate].[OrderedDate].[MEMBER_CAPTION]	[Measures]&[FACT].[Product].[Product]	[Measures]&[FACT].[UnitsInStock]	[Measures]&[FACT].[OrderLine].[OrderLine]	[Measures]&[FACT].[UnitP]
▶	All	3119		56424.86	
	1996-07-04 00:00:00	(null)		58.6	
	1996-07-05 00:00:00	(null)		61	
	1996-07-08 00:00:00	(null)		100.5	
	1996-07-09 00:00:00	(null)		94	
	1996-07-10 00:00:00	(null)		40.4	
	1996-07-11 00:00:00	(null)		30.8	
	1996-07-12 00:00:00	(null)		88.3	
	1996-07-15 00:00:00	(null)		36.6	
	1996-07-16 00:00:00	(null)		59.9	
	1996-07-17 00:00:00	(null)		57.8	
	1996-07-18 00:00:00	(null)		28.8	
	1996-07-19 00:00:00	(null)		97.1	

FIG. 18

24 / 38

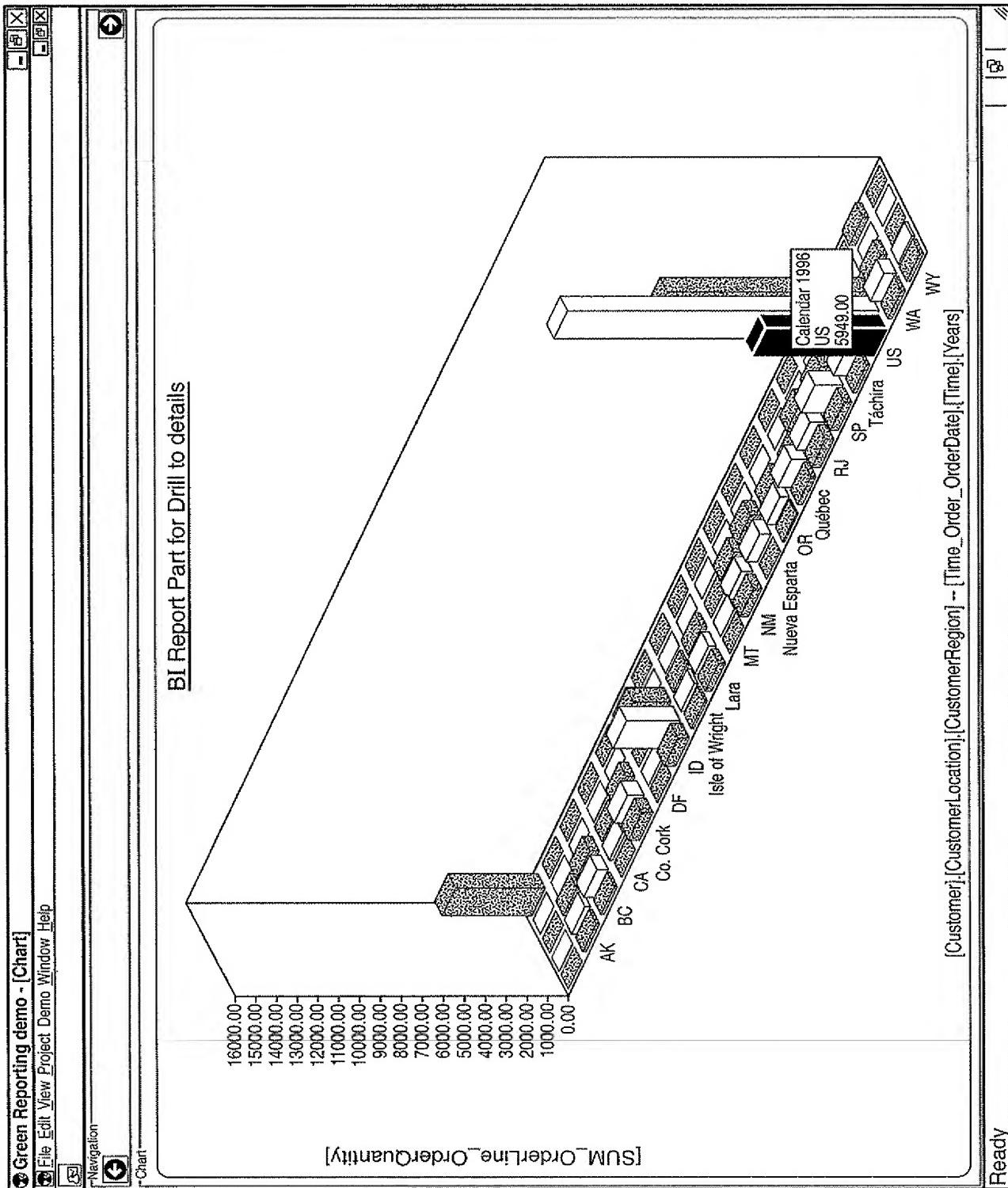
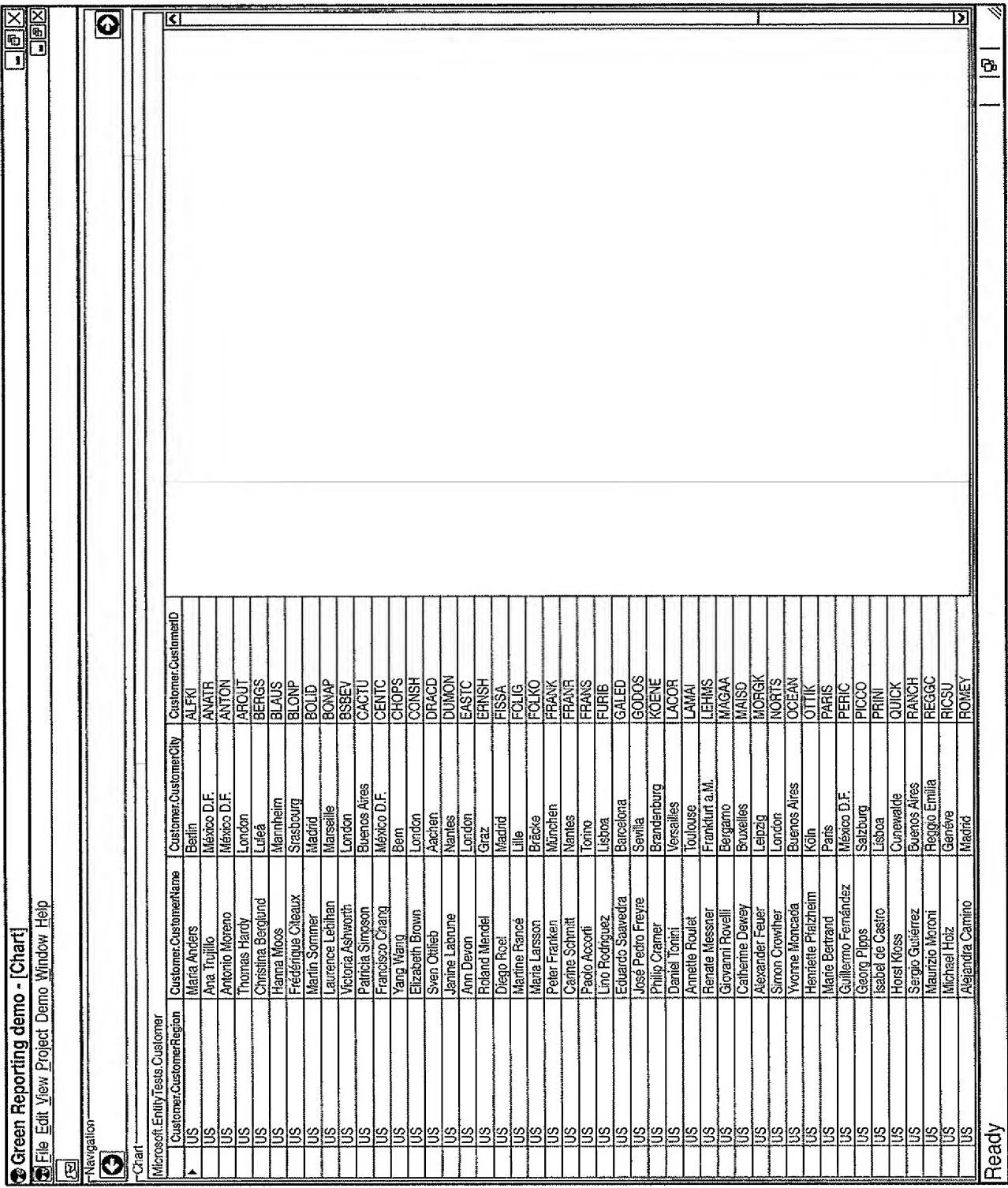


FIG. 19

REPLACEMENT SHEET
 Appln. No.: 10/748,391, Filed: 12/30/2003
 Inventor: Adam Yeh, Att. Docket: M61.12-0568

25 / 38



The screenshot shows a Microsoft Entity Test application window titled "Customer Chart". The window has a standard Windows-style title bar with icons for minimize, maximize, and close. Below the title bar is a menu bar with "File", "Edit", "View", "Project Demo", "Window", and "Help". On the left side, there is a vertical toolbar with icons for "New", "Open", "Save", "Print", "Copy", "Paste", "Delete", "Find", and "Navigation". The main area of the window contains a large grid table with 30 rows and 5 columns. The columns are labeled "Customer.CustomerRegion", "Customer.CustomerName", "Customer.CustomerCity", "Customer.CustomerCityID", and "Customer.CustomerID". The data in the grid represents various customers from different regions with their names, cities, city IDs, and customer IDs.

	Customer.CustomerRegion	Customer.CustomerName	Customer.CustomerCity	Customer.CustomerCityID	Customer.CustomerID
1	US	Maria Anders	Berlin	ALFKI	
2	US	Ana Trujillo	México D.F.	ANATR	
3	US	Antonio Moreno	México D.F.	ANTON	
4	US	Thomas Hardy	London	AIROUT	
5	US	Christina Berglund	Luleå	BERGS	
6	US	Hanna-Mia Moss	Mannheim	BLAUS	
7	US	Frédéric Citeaux	Strasbourg	BLONP	
8	US	Martin Sommer	Madrid	BOLID	
9	US	Laurence Lebihan	Marseille	BONAP	
10	US	Victoria Ashworth	London	BSBEV	
11	US	Patricia Sincoski	Buenos Aires	CACTU	
12	US	Francisco Chang	México D.F.	CENTC	
13	US	Yang Wang	Beijing	CHOPS	
14	US	Elizabeth Brown	London	CONSH	
15	US	Sven Ottieb	Zürich	DRACD	
16	US	Jeanne Lapoule	Nantes	DUMON	
17	US	Ann Devon	London	EASTC	
18	US	Roland Mendel	Graz	ERNSH	
19	US	Diego Roel	Madrid	FISSA	
20	US	Martine Ransé	Lille	FOIG	
21	US	Maria Larsson	Brücke	FOLKO	
22	US	Peter Franken	München	FFANK	
23	US	Carrie Schnitt	Nantes	FFANS	
24	US	Paolo Accorti	Torino	FFRANS	
25	US	Lino Rodriguez	Lisboa	FURIB	
26	US	Eduardo Saavedra	Barcelona	GALED	
27	US	José Pedro Freyre	Sevilla	GOODS	
28	US	Philip Cramer	Brandenburg	KÖENE	
29	US	Daniel Tonini	Versailles	LACOR	
30	US	Annette Routé	Toulouse	LAMA	
	US	Renate Messner	Frankfurt a.M.	LEHMS	
	US	Giovanni Rovelli	Bergamo	MAGAA	
	US	Catherine Davy	Bouxelles	MAISD	
	US	Alexander Feuer	Leipzig	MFGK	
	US	Simon Crowther	London	MORTS	
	US	Yvonne Monada	Buenos Aires	OCEAN	
	US	Hannette Blalheim	Köln	OTTIK	
	US	Marie Bertrand	Paris	PARIS	
	US	Guillermo Fernández	México D.F.	PERIC	
	US	Georg Plings	Salzburg	PICCO	
	US	Isabel de Castro	Lisboa	PRINI	
	US	Horst Kosz	Cunevalde	QUICK	
	US	Sergio Gutiérrez	Buenos Aires	RANCH	
	US	Mauricio Moroni	Reggio Emilia	REGGC	
	US	Michael Holz	Genève	RICSL	
	US	Alejandra Camíño	Madrid	ROMEY	

Ready

FIG. 20

26 / 38

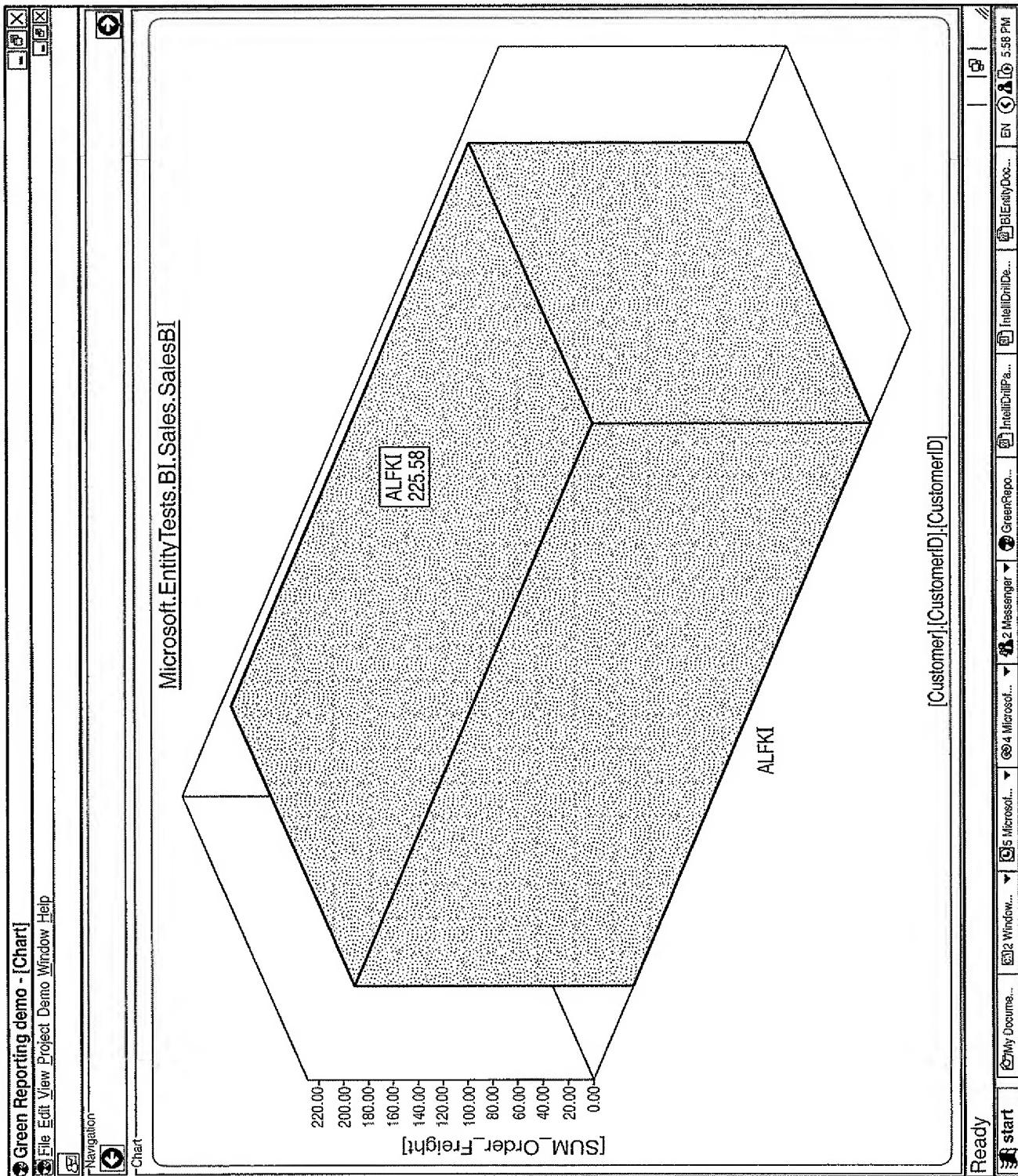


FIG. 21

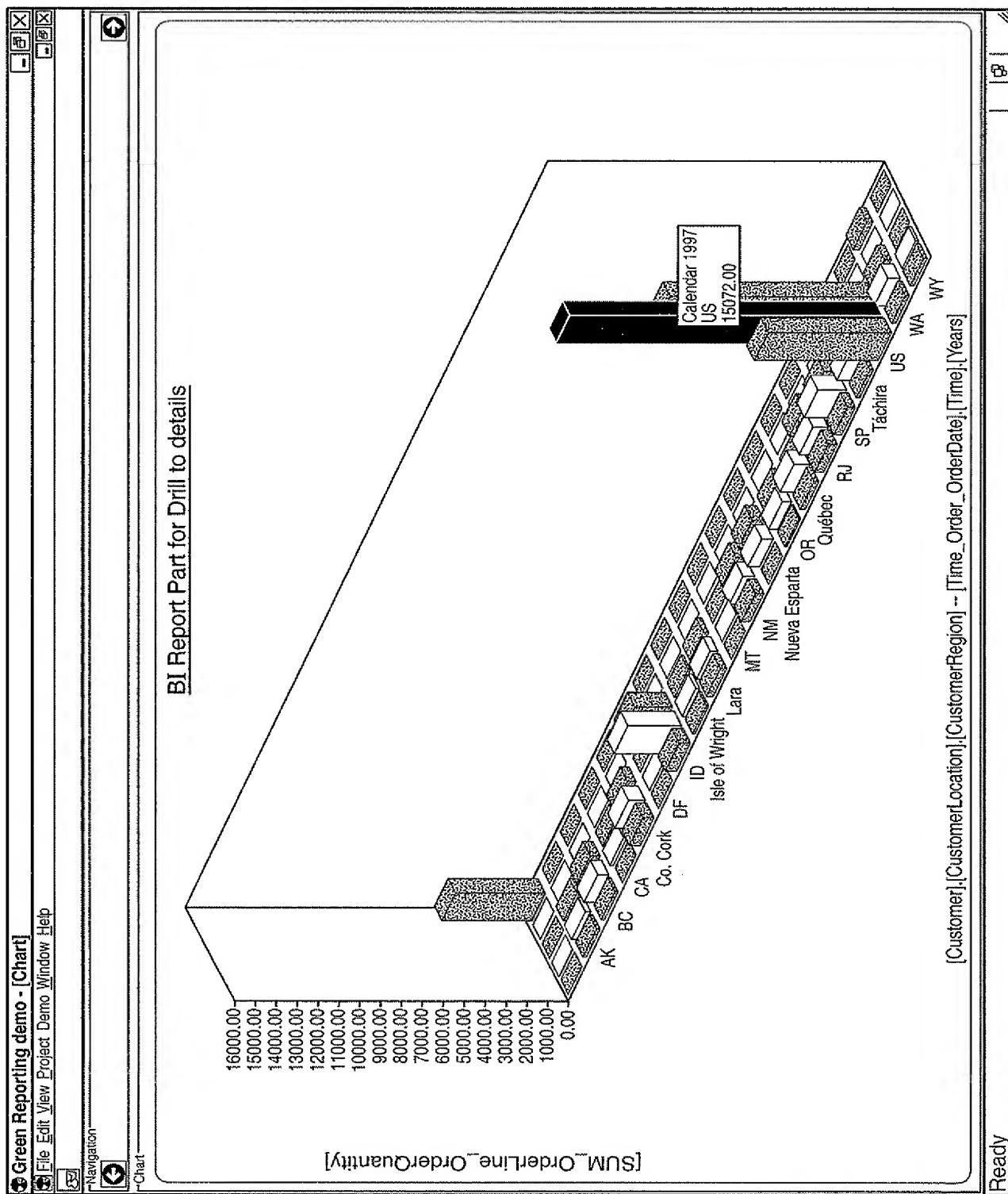


FIG. 22

REPLACEMENT SHEET
Appln. No.: 10/748,391, Filed: 12/30/2003
Inventor: Adam Yeh, Att. Docket: M61.12-0568

28 / 38

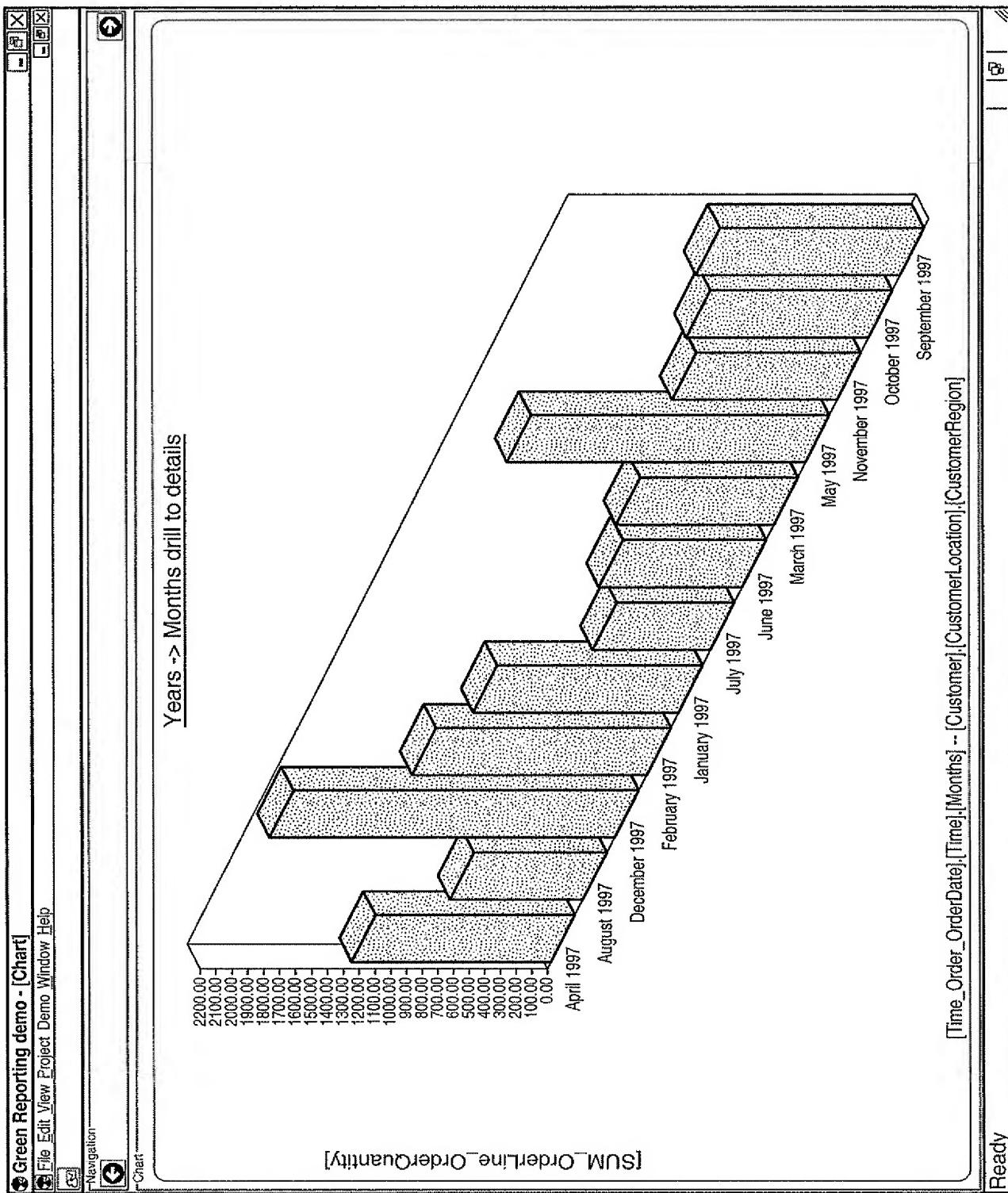
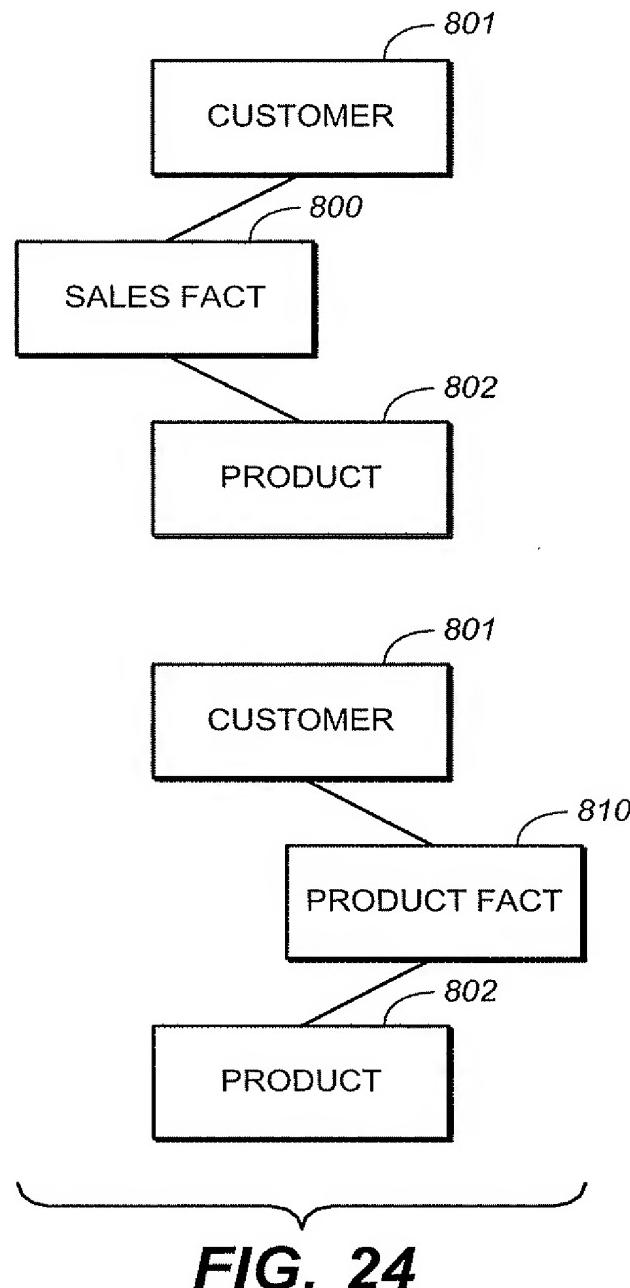


FIG. 23

29 / 38



30 / 38

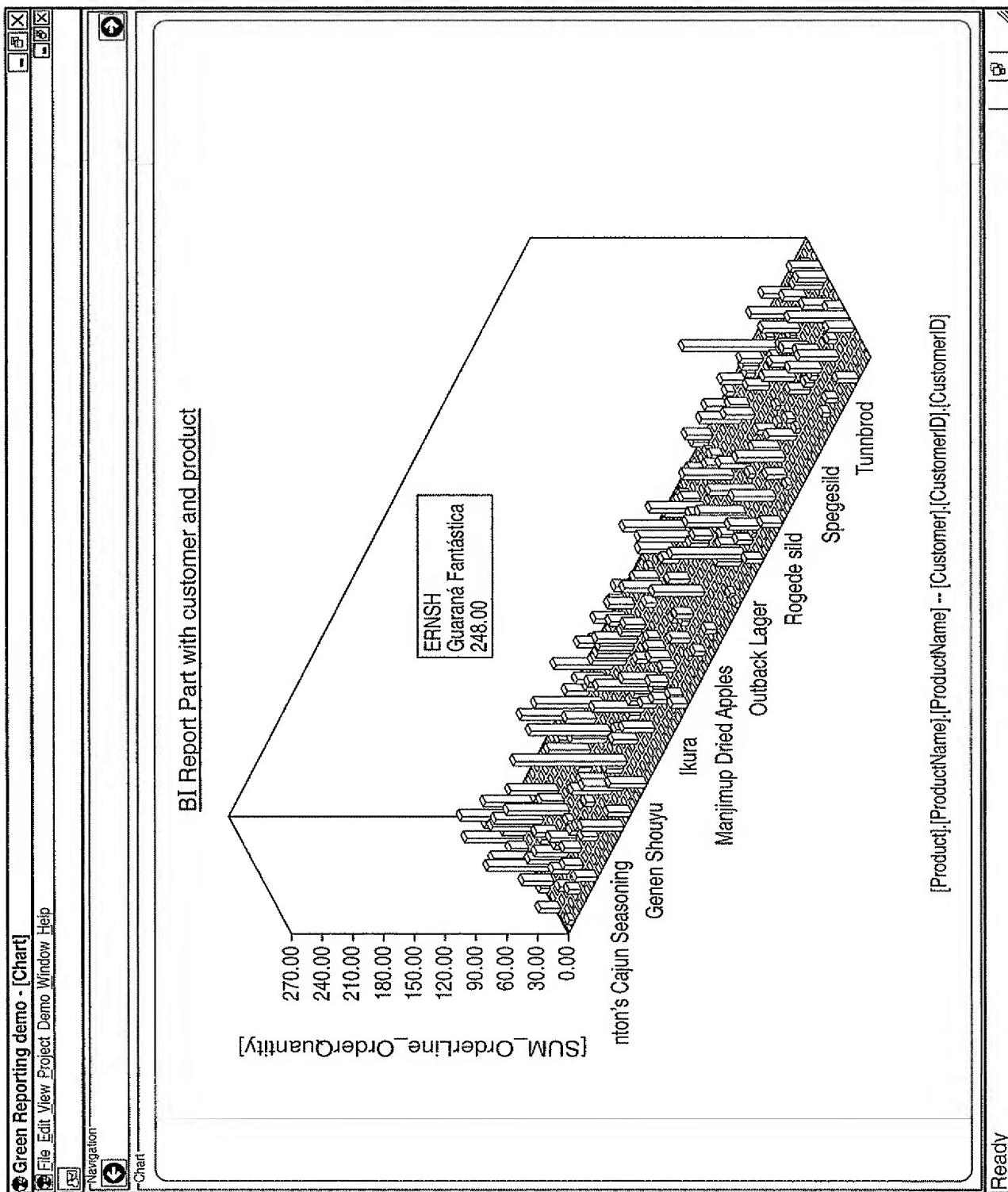
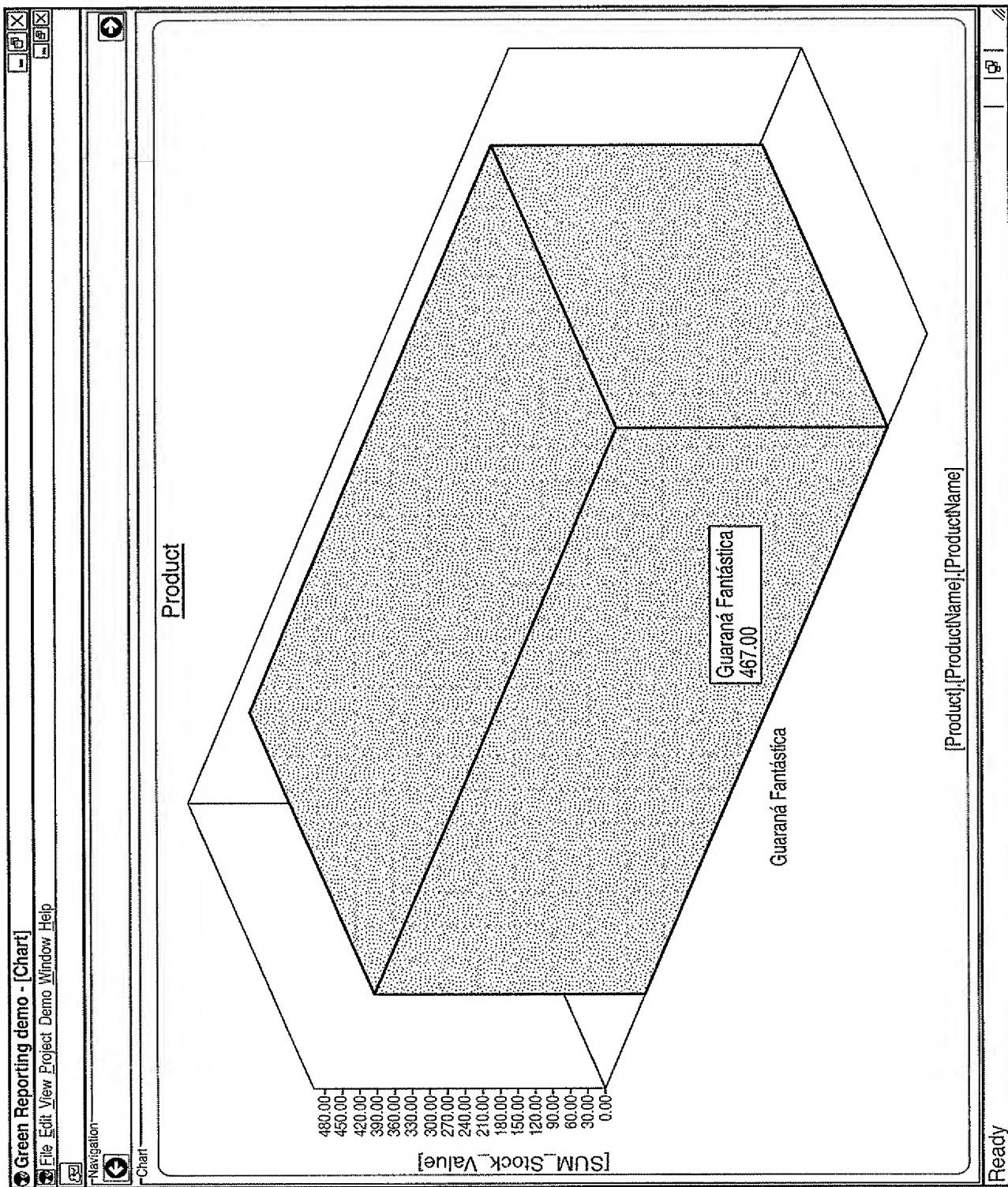


FIG. 25



F/G. 26

32 / 38

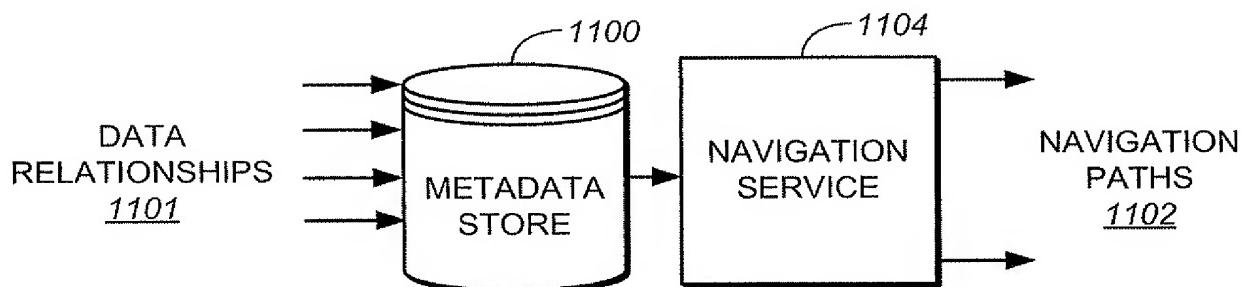


FIG. 27

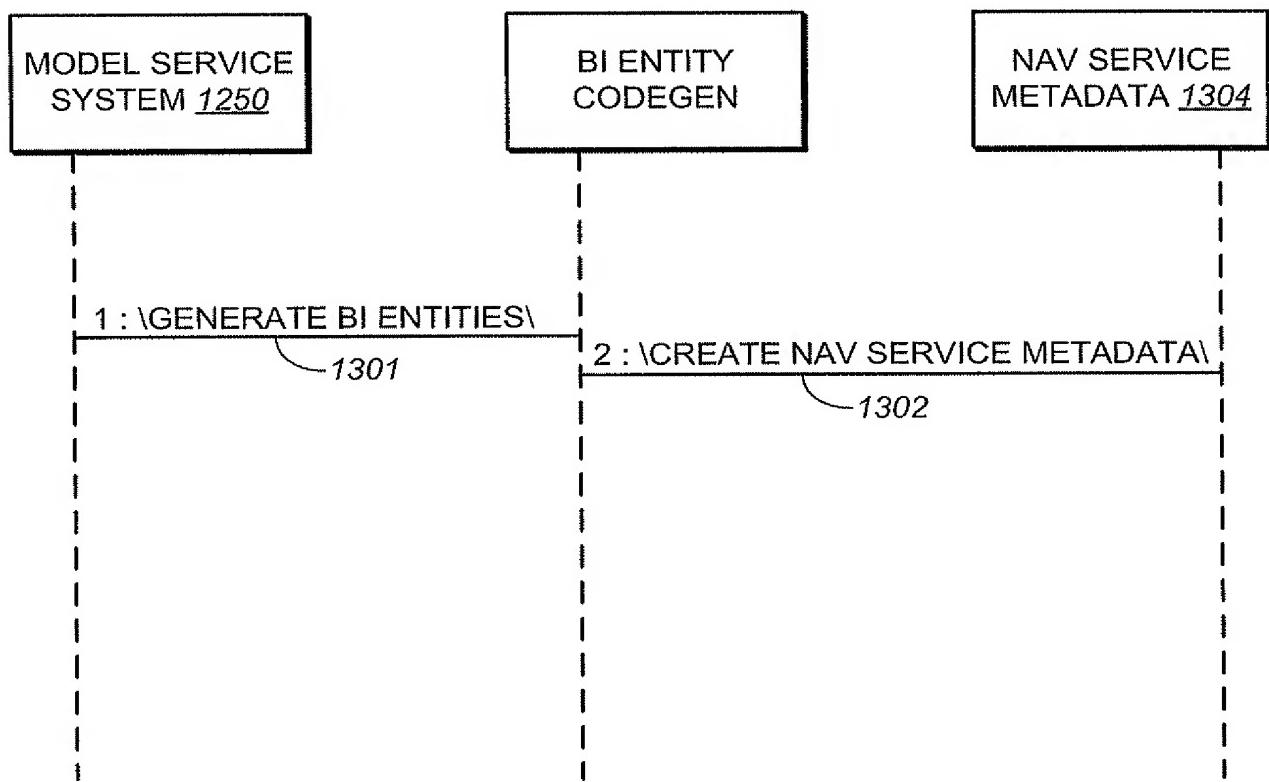


FIG. 28

33 / 38

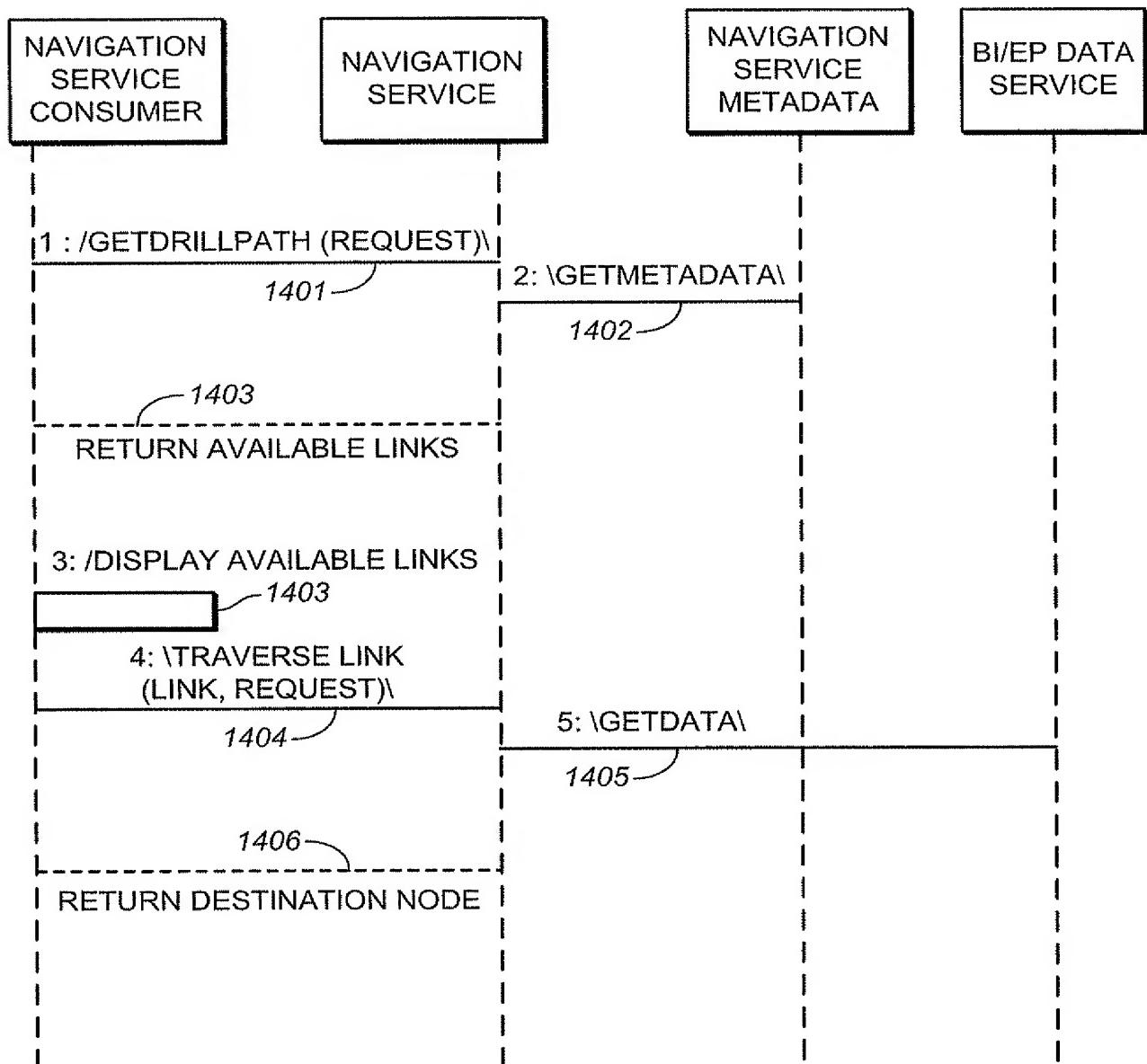


FIG. 29

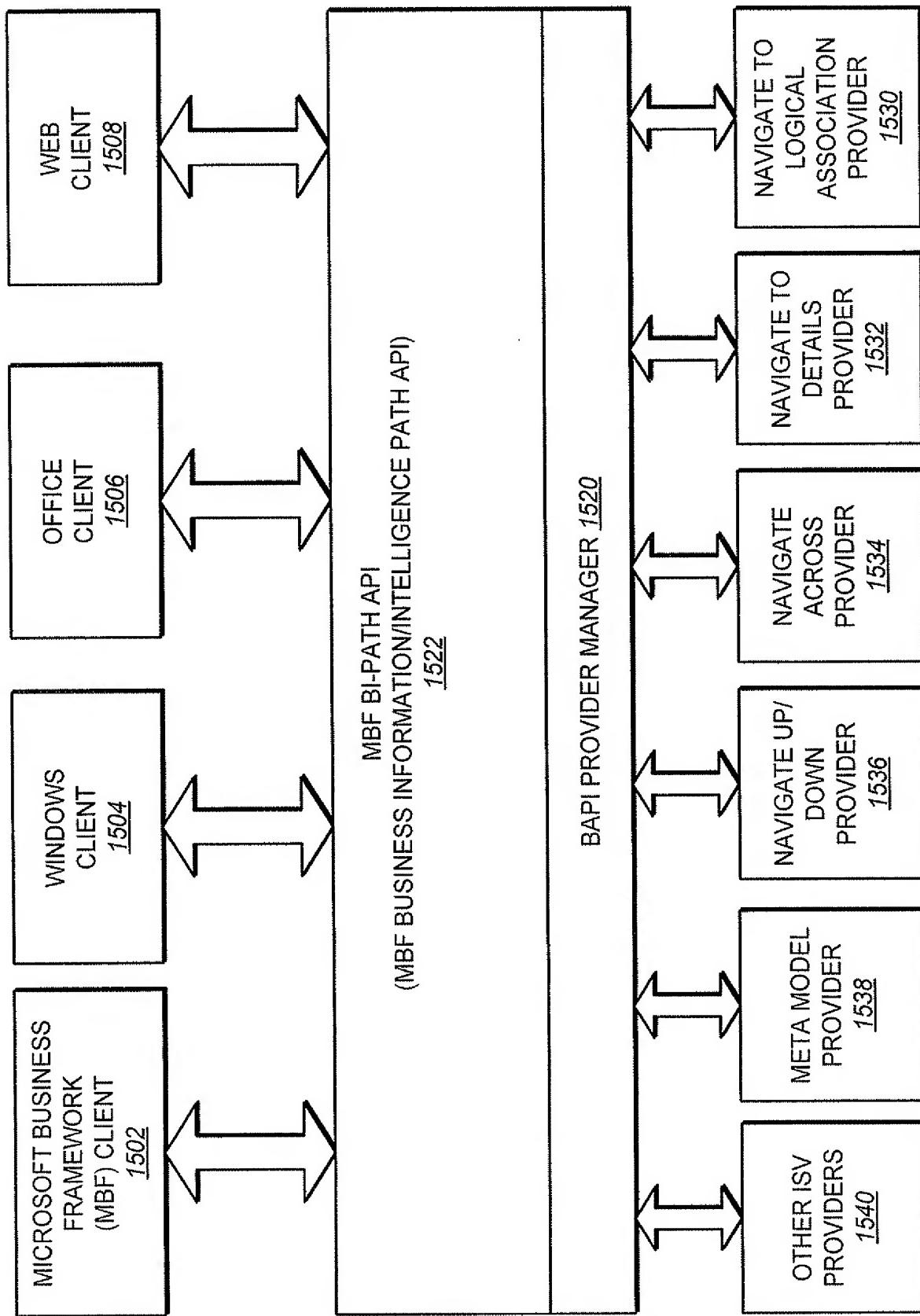


FIG. 30

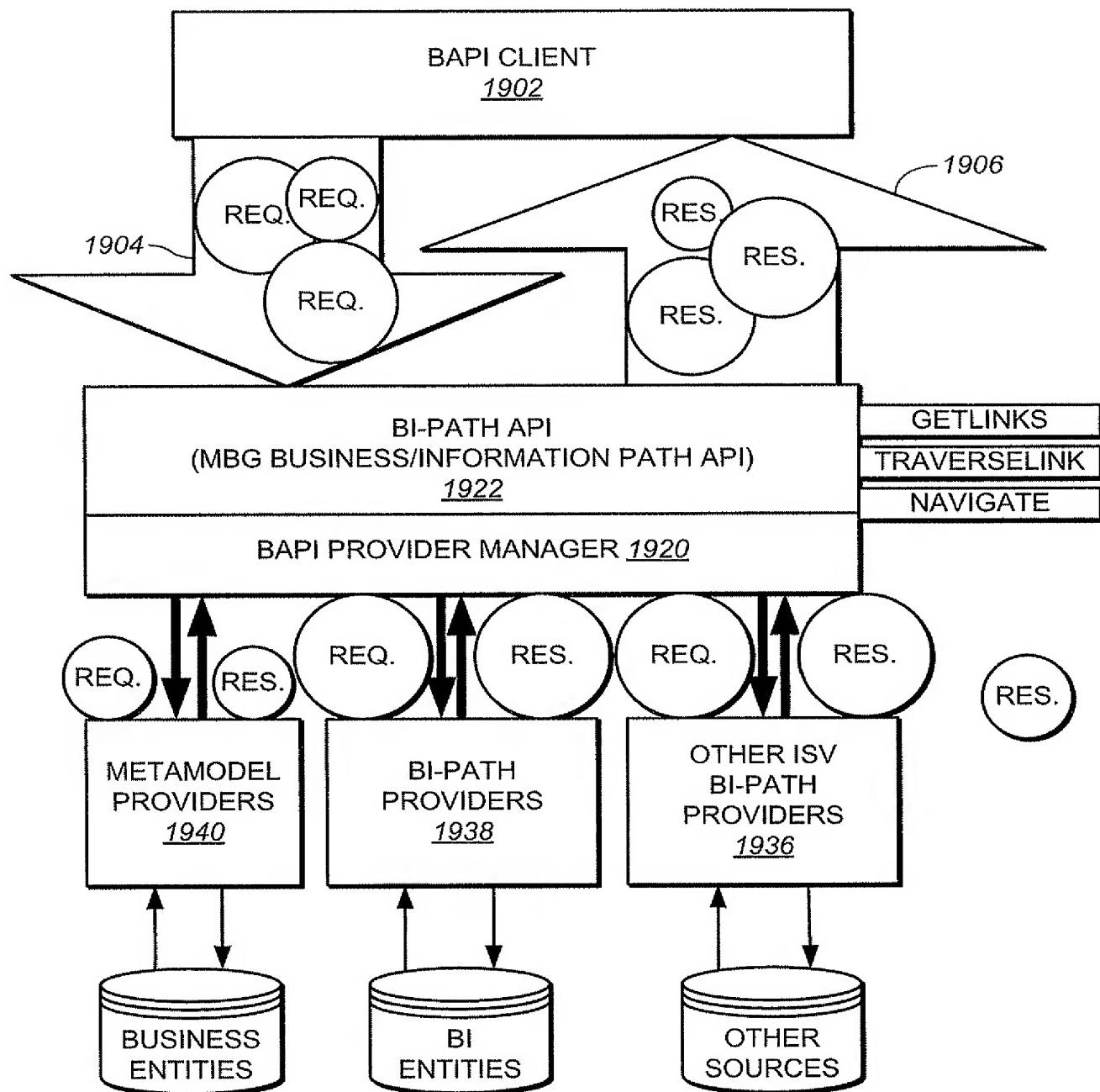


FIG. 31

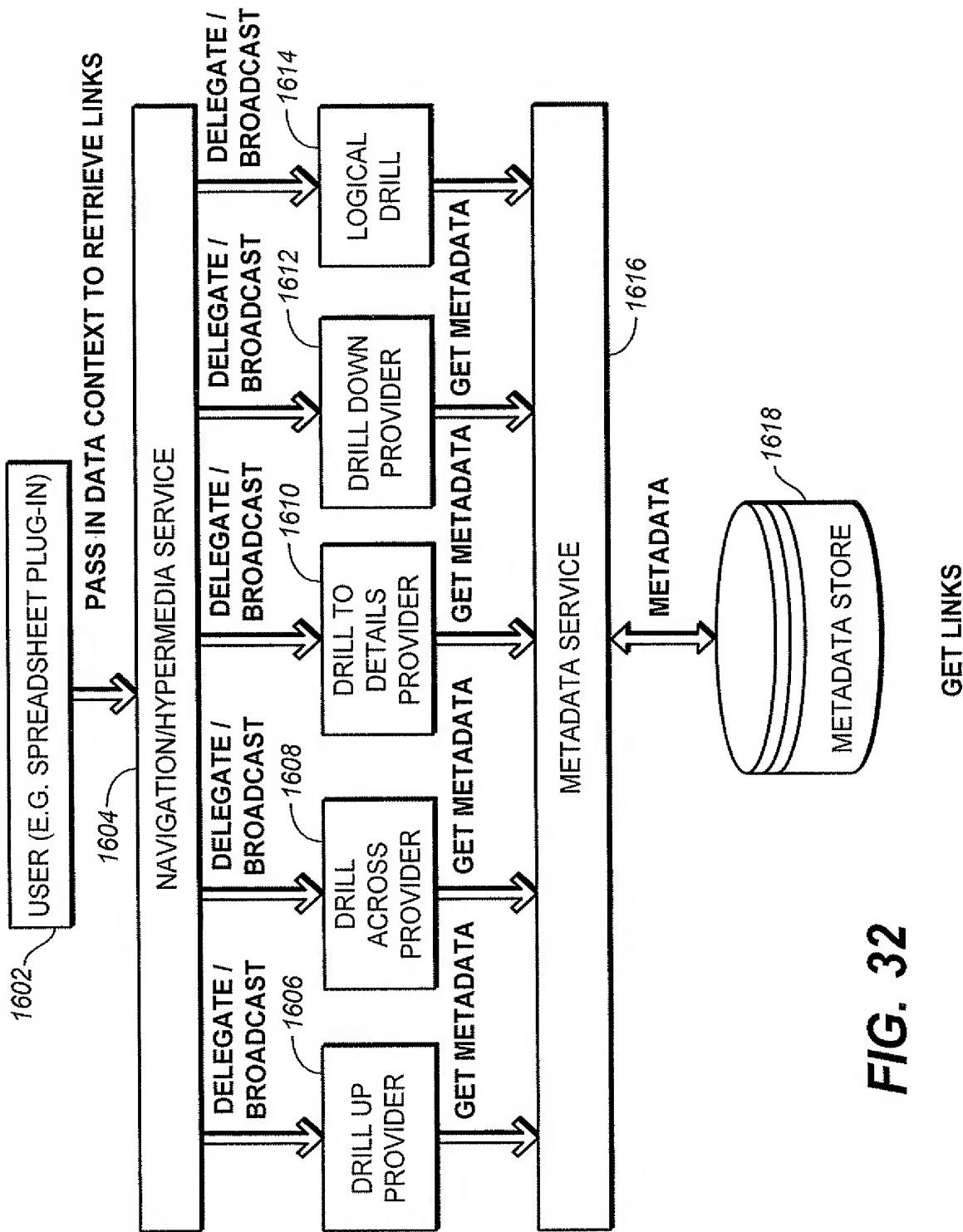


FIG. 32

